

Comment Response Document, Chapter 3
COMMENT SUMMARIES AND RESPONSES

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INTRODUCTION

This chapter summarizes all of the comments the National Nuclear Security Administration (NNSA) received on the *Draft Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) and provides NNSA's responses to those comments. As discussed in Chapter 1 of this Comment Response Document (CRD), NNSA received approximately 100,000 comment documents on the Draft SPEIS from federal agencies; state, local, and tribal governments; public and private organizations; and individuals. In addition, during the 20 public hearings that NNSA held, more than 500 speakers made oral comments. NNSA has placed this material, including the names of commentors, comment summaries, and the public hearing transcripts on the project website (www.complextransformationspeis.com).

Although the closing date of the public comment period was April 30, 2008, NNSA was able to process all comments that it received, and to prepare comment summaries and responses, including late received comments, for inclusion in this CRD.

HOW NNSA CONSIDERED PUBLIC COMMENTS

NNSA assessed and considered public comments on the Draft Complex Transformation SPEIS, both individually and collectively. Some comments led to SPEIS modifications; others resulted in a response to answer or explain policy questions, to refer readers to information in the SPEIS, to answer technical questions, to explain technical issues, or to provide clarification. A number of comments provided valuable suggestions on improving the SPEIS. As applicable, the responses in this chapter identify changes that NNSA made to the SPEIS as a result of comments.

The following list highlights key aspects of NNSA's approach to capturing, tracking, and responding to public comments on the Draft SPEIS:

- At the beginning of the public comment period, NNSA developed a list of major issue categories as a starting point for capturing and tracking public comments that were anticipated. As comments were received, they were reviewed and "binned" into applicable issue categories, or into new issue categories that were created. Because binning was a continuous process during the public comment period, issue categories were expanded and augmented as necessary to ensure that comments were binned into a proper issue category. If an existing comment bin was not specific enough, a new bin was created. Additionally, because comments relevant to some of the original issue categories were not raised by the public, some of the issue categories developed by NNSA are blank (see for example, issue code 1.I below).

- NNSA reviewed and considered every comment received, including written and oral comments made during the public hearings, to identify, categorize and summarize those comments. As shown in Chapter 2 of this CRD, the written documents received have been annotated with sidebars and comment codes. Those sidebars and codes provide the information that identifies where those comments are addressed. In some cases, multiple comment codes were assigned to a comment to indicate that an identified comment was considered in multiple comment summaries and responses. With respect to comments made during the public hearings, Chapter 2 of this CRD presents the comments that were identified as well as the comment summaries and responses that were assigned to those comments.
- After comment identification, NNSA grouped individual comments by categories and assigned each comment group to an expert in the appropriate discipline to prepare the response.
- Comment summaries are intended to capture the substantive issue(s) raised by a comment for a specific issue. Comments grouped and summarized for response are, of necessity, paraphrased, but NNSA made every effort to capture the essence of comments included in a comment summary. If the meaning of a comment was not clear, NNSA attempted to interpret the comment and respond based on that interpretation. In some cases, NNSA used specific language from one or more commentors to develop a particular comment summary. This should not be interpreted to mean that NNSA considered any comment to be more or less important than other comments received relative to that comment summary; rather, NNSA felt that a comment's particular language was a reasonable articulation of many comments for a particular subject. In some cases, a commentor submitted a comment that was so unique that it was responded to individually.
- In some instances, a comment summary and response are related to another comment summary and response. In these instances, the comment response directs the reader to that related comment summary and response.
- Senior-level experts reviewed and revised each comment summary and response to ensure technical and scientific accuracy, clarity, and consistency, and to ensure that the response addressed the summarized comments.

In this process, NNSA has attempted to provide an accurate record of the comments received, as well as NNSA's responses to those comments. The responses indicate whether any changes were made to the Complex Transformation SPEIS and the reasons for making those changes. Section 1.3 describes the organization of this CRD and the tables provided in Chapter 1 to assist readers in tracking their comments to the appropriate comment summary and response. Each commentor should readily be able to locate their comment, the comment summary in which those comments were summarized, and the response that addresses those comments.

ORGANIZATION OF COMMENT AND RESPONSE SUMMARIES

The comment summaries and responses that follow are organized within issue codes, as shown

in Chapter 1, Table 1.3-1, of this CRD. For example, issue code 1 contains comments related to nuclear weapon policies. Within this issue code, specific comment summaries and responses related to topics such as Presidential Decision Directives, the Nuclear Posture Review, new weapons design, the *Comprehensive Test Ban Treaty*, and non-proliferation may be found. Depending upon the comments that were received on the Draft SPEIS, some topics within an issue code contain many comment summaries and responses. For example, issue code 2.K contains specific comments that were received on Chapters 1 through 3 of Volume I of the Draft SPEIS. Within this issue code there are 29 comment summaries and responses (2.K.1 through 2.K.29). Comment summaries and responses within issue codes are not presented in any particular order of importance.

In some instances, a similar topic is addressed in multiple comment summaries and responses. This occurred due to the fact that comments were often intertwined, and the binning process captured these comments in multiple issue codes. While this resulted in some redundancy within some of the comment summaries, NNSA decided that redundancy was preferred to potentially omitting some comments. In those instances where similar topics are addressed in multiple summaries and responses, cross-references are provided to the similar summary and response.

1.0 NUCLEAR WEAPON POLICIES -- GENERAL

Within this issue category, commentors raised general questions regarding policies related to nuclear weapons, as well as the specific comments that are discussed in sub-categories 1.A through 1.Q below. Commentors also expressed concern about the nation's spending priorities and the impacts of nuclear weapons activities on the health and safety of people.

Response: *Policies related to nuclear weapons are established by the President and the Congress. Please see the comment-responses in this issue category for specific comments and responses related to nuclear weapons policies. With respect to spending priorities, such decisions are made by the President and the Congress. Chapter 5 of the SPEIS addresses the potential impacts to human health and safety for the alternatives considered. Please see comment-response 14.K for specific comments and responses related to health and safety.*

1.A WORLD COURT

Commentors stated that the Complex Transformation plans were in violation of the World Court ruling on the illegality of the use or threat of the use of nuclear weapons and other weapons of mass destruction.

Response: *The World Court Advisory Opinion (Legality of the Use or Threat of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996, p. 226 [July 8, 1996]) did not find a prohibition on the possession of nuclear weapons by any state. The Advisory Opinion of the World Court does not address any of the elements of the reasonable alternatives; rather, it primarily dealt with the use or threat of use of nuclear weapons. Accordingly, NNSA believes that*

transformation plans do not violate the Advisory Opinion.

1.B PRESIDENTIAL DIRECTIVES, PUBLIC LAW, AND CURRENT POLICIES

A commentor noted that we should not rely on the last generation of nuclear weapons but on a new nuclear weapon which will serve a different world situation. Other commentors stated that there should be a moratorium on new warhead designs stating that new warhead designs are not needed now or in the foreseeable future and new nuclear weapons for new missions are unneeded, costly, and undermine international non-proliferation efforts.

Response: *NNSA is required to maintain nuclear weapons capability, including the capability to design, develop, produce, and certify new warheads. Maintenance of the capability to certify weapon safety and reliability requires an inherent capability to design and develop new weapons. NNSA has not been directed to produce new-design nuclear weapons. While NNSA has been engaged in weapons design activities involving the development of a Reliable Replacement Warhead (RRW), the Congress has not provided funding at this time for further development of an RRW; and NNSA has not been directed to produce new-design weapons. Decisions on the type and number of warheads that this nation requires for national security are made by the President and the Congress and not by NNSA. See comment-response Section 8 and Section 2.5 of Volume I of the SPEIS for information on the relationship between RRW and complex transformation. See Section 2.5 of Volume I of the SPEIS for a discussion of an RRW. See also comment response 1.D for related discussion.*

1.C NUCLEAR POSTURE REVIEW

Commentors raised the following major issues related to the 2001 Nuclear Posture Review:

- The 2001 Nuclear Posture Review (NPR) does not reflect the changed threat environment since September 11, 2001, and should not be used to establish or define NNSA's programmatic requirements;
- It makes no sense for Complex Transformation to proceed now, before a new NPR is completed in 2009 by the incoming Administration, as is currently required by the Congress;
- A new Draft SPEIS document should incorporate the outcome of Senator Feinstein's bill S1914 [S1914 had not been enacted as of September 2008, *however, the Congress did separately establish a requirement to complete a new NPR in 2009*], and the recommendations from the bipartisan panel formed by the passage of the bill put forward by Representative Tauscher [*the Bipartisan Panel's recommendations resulting from their reevaluation of the U.S. Nuclear Strategic Posture are due December 1, 2008*].

- The 2001 NPR, which lays out the direction for American nuclear forces over the next 5-10 years, is obsolete;
- The NPR is a document issued by the Department of Defense (DoD) and cannot establish requirements for NNSA;
- Because the NPR is neither Presidential Direction nor law, NNSA cannot base its projected requirements on that document.
- Sections of the Draft SPEIS that cite the 2001 NPR as binding in establishing the Agency's purpose and need for action, or that employ it to narrow the range of reasonable alternatives for detailed analysis, should be deleted or revised.
- While the SPEIS qualitatively evaluates changes in the alternatives that would be appropriate if the stockpile is reduced below the level called for by the *Moscow Treaty*, the SPEIS should simply not make those determinations (perhaps better called predeterminations), and the NNSA should withdraw this SPEIS; and
- Until the size and characteristics of the future arsenal are determined, it is premature to build new facilities related to the production of weapons components including pit production, the Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF), and the Uranium Processing Facility (UPF).

Response: *The commentors are correct in stating that the Nuclear Posture Reviews do not establish requirements for NNSA. The requirements that NNSA uses to base or define its programmatic requirements are established by the current Presidential Decision Directives (PDDs) (which define the current and projected stockpile levels); The Nuclear Weapons Stockpile Plans (NWSPs), that specifies the types of weapons and quantities of each weapon type by year; statutes; and the judgment of NNSA in consultation with DoD and experts at NNSA's national laboratories. Based on these requirements, NNSA makes reasonable predictions as to the necessary configuration and capacity of the nuclear weapons complex for the future. Chapter 2 of the SPEIS discusses the major national security policy requirements and considerations that are most relevant to determining the need for action. Included in that discussion are PDDs, legislation, the Nuclear Posture Review, the Nuclear Weapons Stockpile Plan (NWSP), and related treaties. While that list is not exhaustive, it does represent, in NNSA's view, the most significant documents that define the nuclear weapons program for the reasonably foreseeable future.*

NNSA believes the Draft SPEIS analysis is consistent with and supports these national security requirements and policies. NNSA has no basis to predict that nuclear weapons will not be a part of this Nation's national security policy over the time period covered in this SPEIS. The range of alternatives analyzed in this SPEIS covers the range that NNSA believes could reasonably evolve from any changes to National policy with regard to the size and number of nuclear weapons in the foreseeable future. Accordingly, there is no reason to delay some decisions on Complex Transformation pending a new Nuclear

Posture Review or the recommendations of the Bipartisan Panel reevaluating the United States Nuclear Strategic Posture.

Both the Distributed Centers of Excellence Alternative and the Consolidated Centers of Excellence Alternatives provide a capability to perform all of the functions necessary to maintain a safe, secure, and reliable stockpile; while the Capability-Based Alternative provides this level of support for stockpile sizes that would be significantly smaller than the current stockpile and, therefore, would not meet the requirements of the current PDD. See also the discussion in comment-response 7.O describing a new “No Net Production/Capability-Based Alternative” that has been added to Chapter 3 of Volume I of the Final SPEIS.

1.D NEW WEAPONS DESIGN

Commentors stated that the United States should not rely on the last generation of nuclear weapons but needs a new nuclear weapon that will serve a different world situation.

Response: *While NNSA maintains the ability to design new weapons, it does so only at the direction of the President with appropriate funding from the Congress. To date, NNSA has not been directed to develop a new nuclear weapon which would address a new threat or target. If directed by the President and the Congress, NNSA would pursue a reliable replacement for warheads currently in the stockpile (see Section 2.5 of Volume I of the SPEIS). See also comment-response 1.B for related discussion.*

1.E COMPREHENSIVE TEST BAN TREATY

Commentors stated that the proposed alternatives for Complex Transformation are in direct violation of the *Comprehensive Test Ban Treaty* (CTBT).

Response: *The CTBT has not entered into force because the United States has not ratified the treaty and, therefore, does not constrain any activity of the United States. None of the alternatives addressed as part of Complex Transformation would result in a return to nuclear testing; in fact, the alternatives seek to avoid a need for testing. NNSA ensures the safety and reliability of the Nation’s nuclear weapons through the science-based Stockpile Stewardship Program; which has enabled the continued annual certification of the stockpile without underground testing.*

1.F TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

Commentors raised the following major issues related to the nuclear non-proliferation treaty (NPT):

- NNSA appears to have ignored thousands of public comments submitted during the scoping process requesting that NNSA analyze the

full range of reasonable alternatives for consolidating the nuclear weapons complex, including alternatives that would both support and reflect implementation of our nation's obligation under the NPT to negotiate, in good faith, progressive reduction and eventual elimination of its nuclear arsenal, in concert with other nuclear states;

- The proposed alternatives for Complex Transformation are in direct violation of Article VI of the NPT, and the Constitution of the United States requires compliance with the NPT;
- Political leaders should take immediate and deliberate steps toward multilateral disarmament, which would involve such actions as increased weapons dismantlement. because the alternatives do not implement disarmament;
- The United States should look toward South Africa where the government unilaterally disarmed without consequence;
- People make decisions, and NNSA's program managers should do what is morally right and be the ones to make the decision not to make weapons; and
- A disarmament alternative is inherently reasonable and should be included as an alternative in the SPEIS.

Response: *Over the past 20 years, the United States has worked to help establish an international security environment conducive to progress toward disarmament. The United States has also made significant progress toward achieving the nuclear disarmament goals set forth in the Preamble and Article VI to the Treaty on the Non-Proliferation of Nuclear Weapons, and has a strong record of compliance with its Article VI obligations. The nuclear arms race that was in full swing when the NPT was opened for signature has been halted. The United States has taken dramatic steps toward the goal of nuclear disarmament, including working to resolve destabilizing global and regional tensions; reducing its nuclear forces and nuclear weapons stockpile, through both unilateral and bilateral initiatives; and working cooperatively with allies and partners further to reduce nuclear threats.*

However, even after the Cold War, international dangers remain, and nuclear deterrence will continue to be a cornerstone of U.S. national security policy for the foreseeable future. Thus, NNSA's responsibilities for ensuring the safety and reliability of the U.S. nuclear weapons stockpile will also continue.

Under the NPT, the parties agreed not to transfer nuclear weapons or other devices, or control over them, and not to assist, encourage, or induce non-nuclear states to acquire nuclear weapons and have agreed to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control (Article VI)." However, the treaty does not mandate disarmament or specific stockpile reductions by nuclear states, and it does not address actions

of nuclear states in maintaining their stockpiles. Section 2.14 of Volume 1 of the SPEIS addresses these issues.

Stockpile stewardship contributes positively to U.S. arms control and non-proliferation policy goals by providing the United States with continued confidence in its weapons to allow further reductions in stockpile size and to meet its NPT Article VI obligations. Maintenance of a safe and reliable stockpile is consistent with working toward the NPT goal of eliminating nuclear weapons worldwide at some unspecified time in the future.

The Nuclear Weapons Stockpile Plans (NWSPs) specify the types of weapons and quantities of each weapon type by year (Section 2.1.6 of Volume 1 of the SPEIS). The NWSP is developed based on DoD force structure requirements necessary to maintain nuclear deterrence and comply with existing arms control treaties while pursuing further arms control reductions. Although NNSA believes it is unreasonable to speculate, NNSA has considered that a future national security policy framework could define a path to a smaller stockpile. The SPEIS analyzes a smaller weapon stockpile for the purpose of a sensitivity analysis of manufacturing capacities and, similarly, has added an alternative that would provide no net additions to the stockpile (See Comment Response 7.O and Section 3.6.3 of Volume 1 of the Final SPEIS). However, unilateral denuclearization is not a reasonable alternative for this SPEIS because it does not satisfy current national security policy.

It is reasonable to assume that United States confidence in the safety and reliability of the nuclear weapons stockpile would remain as important, if not more important, in future arms control negotiations to reduce its stockpile further which could further the goals of the NPT. The path to a very small (100s) or no stockpile would require the negotiation of complex international treaties, most likely with provisions that require international verification inspections of nuclear weapons related facilities. On a gradual path to a very small or no stockpile, size alone would not change the purpose and need, proposed actions, and alternatives in this SPEIS as they relate to capabilities. The issues of maintaining the core competencies of the United States in nuclear weapons, and the technical problems of a smaller, aging stockpile in the absence of nuclear testing remain the same. NNSA disagrees with the assertion that the alternatives in the SPEIS do not comply with the Constitution or the NPT.

1.G

MOSCOW TREATY

Commentors stated that the *Moscow Treaty* should allow for the assignment of duplicative programs to one of the two Nuclear Physics Laboratories rather than continuing with redundant programs. A commentor stated that the United States has been in compliance with the *Moscow Treaty* in destroying plutonium

pits. Commentors stated that there should be a further reduction in stockpile numbers below those required by the *Moscow Treaty*.

Response: *The SPEIS examines a range of alternatives that could be used to support a range of nuclear weapons stockpiles that could reasonably be foreseen as directed by the President, including alternatives that represent a substantial reduction from those levels contemplated by the Moscow Treaty. Decisions on stockpile size and type are made by the President and Congress. See comment-response 7.A.7 for more information on the assignment of certain functions to the national laboratories.*

1.H DEPARTMENT OF DEFENSE INVOLVEMENT

A commentor stated that for a topic as important as how many weapons are in the stockpile as nations disarm, the Department of Defense (DoD) should be involved.

Response: *NNSA invited other agencies to be cooperating agencies under the Council on Environmental Quality (CEQ) and DOE NEPA Regulations. The U.S. Air Force and the U.S. Army Garrison White Sands Missile Range are Cooperating Agencies on this SPEIS and are therefore involved. DoD, through the Nuclear Weapons Council and other entities, is also involved in the development of national security decisions that are reflected in the PDD and the NWSP. The public hearings were held by NNSA because these hearings concern NNSA's proposed actions that are subject to the requirements of NEPA. See also comment-response 2.E for a discussion of the public hearings.*

1.I NOT USED

1.J PROLIFERATION AND NON-PROLIFERATION

1.J and 1.J.1 The following comments related to proliferation and non-proliferation were received:

- Maintaining nuclear weapons was not a deterrent but in fact made the world less safe by encouraging other countries to obtain these weapons;
- The United States has more than enough nuclear weapons already;
- The dismantlement work done by Pantex was appreciated;
- It will be a great day when fewer than 500 nuclear weapons are possessed by either Russia or the United States;
- The United States should unilaterally disarm because if a country can risk nuclear war it can risk disarmament.
- Sometimes the disarmament process slows down and it is necessary to get it on track again.

- It was a good idea for Pantex to sponsor a conference like the one in the spring of 1995 (Commentor provided no further identification of the 1995 conference).
- There is a question of perception of the commitment to disarmament from a nation that is constantly assembling and reassembling its weapons;
- If the DoD, DOE, and the Office of the President were committed to disarmament, they could make it work;
- The President or the Secretary of Defense have not made any statements on disarmament since 2002. May 2008 would be a good time to make such a statement to show the world that the United States and Russia are committed to disarmament;
- The United States is hypocritical when it urges other countries to refrain from development of nuclear weapons while it continues to maintain a stockpile;
- The United States needs to assert its leadership role in international disarmament efforts;
- Complex Transformation will further the nuclear arms race and it will be a bad foreign policy.
- The Complex Transformation SPEIS should consider both the vertical and the horizontal nuclear proliferation risks of each alternative, including the fact that some of the options (e.g., the Preferred Alternative) may increase the threat of other countries getting and using a nuclear bomb as a result of our country's resumption of nuclear weapons production; and
- The SPEIS improperly sidesteps non- proliferation impacts, international law and treaty obligations.

Response: *As a result of previous treaties and the current Moscow Treaty, the Nation's nuclear weapons stockpile has been significantly reduced. However, even after the Cold War, international dangers remain, and nuclear deterrence will continue to be a cornerstone of U.S. national security policy for the foreseeable future. Thus, NNSA's responsibilities for ensuring the safety and reliability of the U.S. nuclear weapons stockpile will also continue. The NPT has a goal of nuclear disarmament and recognizes that disarmament can occur only after negotiation of new treaties among the nuclear weapons states.*

NNSA believes that the United States nuclear weapons program, including modest modernization efforts involving life extension programs, the contemplation of replacement warheads, or complex transformation has not had and will not have any impact on either horizontal (increasing the number of nuclear weapons states) or vertical (increasing the number of nuclear weapons in nuclear weapons states) proliferation. The United States nuclear weapons programs are not the only factors that might affect whether other nations might develop nuclear weapons of their own. Some nations that are not declared nuclear states have the ability to develop nuclear weapons. The

credibility of the United States nuclear umbrella is an extremely significant restraint to proliferation. Continued United States engagement in security cooperation with allies including a military presence, modern and flexible military forces, and the extension of a smaller but safe, reliable and capable nuclear deterrent to allies are key elements in assuring them that they can count on the United States, and do not need to seek their own nuclear forces. The loss of confidence in the safety or reliability of the weapons in the United States stockpile could result in a corresponding loss of credibility of the United States nuclear deterrent and could provide an incentive to other nations to develop their own nuclear weapons programs.

Proliferation incentives for other states, such as international competition or the desire to deter conventional armed forces, would remain unchanged regardless of whether NNSA implemented any of the alternatives analyzed in the SPEIS. NNSA and other agencies of the United States government participate in many government-to-government negotiations intended to reduce the risks of nuclear proliferation.

The United States nuclear weapons programs are unlikely to increase incentives for terrorists to acquire weapons of mass destruction (WMD); those incentives are already high and are unrelated to United States nuclear (or conventional) defense capabilities. The United States nuclear weapons programs are also unlikely to have any impact on rogue state proliferation. Indeed, there is no indication that very significant reductions in the numbers of United States (and Russian) nuclear weapons, and in the alert levels of nuclear forces, over the past two decades, coupled with no United States nuclear testing and very little modernization, have caused other nations to slow down covert programs to acquire capabilities to produce nuclear weapons. On the contrary, these programs have accelerated during this period. Nor did the United States restraint convince other nations to forego testing. Rather, other nations appear to seek WMDs in response to their own perceived security needs, in part, to deter the United States from taking steps to protect itself and allies in each of these regions. In this regard, their incentives to acquire WMDs may be shaped more by the United States advanced conventional weapons capabilities and our demonstrated will to employ them to great effect in Bosnia, Kosovo, Afghanistan, and during both wars with Iraq than to anything the United States has done, or is doing, in the nuclear weapons arena.

1.K

CURRENT ADMINISTRATION POLICY

The following comments were received regarding the nuclear weapons policies of the current Administration:

- The Administration is using fear mongering techniques;
- Complex Transformation is a counterproductive and disastrous lame-duck administration effort;

- The United States government is willing to kill innocent people in Iran because we do not want them to develop nuclear weapons when the

United States is the only country to have used nuclear weapons against civilian or military targets;

- The Administration should not continue the RRW program; and
- The current Administration's foreign policy efforts have been unsuccessful and given the United States a bad reputation.

Response: *NNSA understands that many people have strong opinions regarding policies of any administration; however, many of the comments regarding the current Administration address issues outside the scope of Complex Transformation. NNSA's role in the nuclear weapons program is to maintain weapons capability, including the capability to design, develop, produce, and certify new warheads. DoD is responsible for deployment and, if necessary, use of nuclear weapons. Neither NNSA nor DOE decide the role of nuclear weapons in national policy. Nuclear weapons policy is decided by the President and the Congress. NNSA and DoD implement U.S. nuclear weapons policy according to those decisions. The role of the RRW in Complex Transformation is addressed in Section 2.5 of Volume 1 of this SPEIS. Additional information on the RRW is addressed in comment-responses 1.B and 8. Comment-response 16 contains comments opposing Complex Transformation and NNSA's responses to those comments.*

1.L

INTERNATIONAL RELATIONS

The following comments were received regarding the nuclear weapons policies of the current Administration with regard to international relations:

- Policies of the current Administration have damaged international relations and the United States should pursue policies of diplomacy.
- It is not acceptable for the United States to say its nuclear weapons are for defense and that those of North Korea or Iran would be offensive weapons. We are all members of the United Nations, which already has sanctions on North Korea and Iran, and we should work this issue out through the United Nations process.
- The United States has 5,000 nuclear weapons already and should work on world disarmament through the United Nations.

Response: *The present Administration is responsible for two major reductions in nuclear weapons stockpile, has secured numerous quantities of SNM from areas in the former Soviet Union, and has worked with other nations to limit the proliferation of technologies of concern in other nations. None of these actions could have occurred without substantial diplomacy on the part of the United States. The present Administration is committed to limiting proliferation and continues to negotiate with other countries.*

The scope of the Complex Transformation SPEIS is limited to the analysis of alternatives that would make the Complex smaller, more responsive, efficient and secure. This is not to say that NNSA is not interested in reducing the stockpile or proliferation.

As discussed in Section 2.1.6 of Volume I of the SPEIS, the size and composition of the U. S. Nuclear Weapons Stockpile are determined by the Nuclear Weapons Stockpile Plan (NWSP). The NWSP is normally issued each year by the President and creates the requirements for nuclear weapons that NNSA is required to meet. The NWSP and the actual size and composition of the U.S. nuclear stockpile are classified.

1.M NOT USED

**1.N and
1.N.1 NUCLEAR POWER IN THE UNITED STATES**

The following general comments were received regarding nuclear power in the United States:

- Civilian and weapons-related nuclear activities should not be commingled;
- The nuclear weapons race, the use of civilian nuclear power, and the inevitable tradeoffs made are all inter-related;
- Both support and opposition to civilian nuclear power was expressed;
- The United States should not use nuclear power because it encourages other nations to use nuclear power which might lead to proliferation of nuclear weapons;
- Additional use of nuclear power could be part of the solution to global climate concerns;
- Nuclear power should not be used until the problems associated with nuclear waste are adequately resolved; and,
- Nuclear material in weapons should be turned into fuel for reactors to help reduce greenhouse gases and global warming.

Response: *No proposed action or alternative in Complex Transformation involves civilian nuclear power. The issue of commercial nuclear technology (as related to electricity production and disposition of spent nuclear fuel) is not within the scope of this SPEIS. Likewise, issues such as proliferation and global warming, as related to commercial nuclear technology, are beyond the scope of this SPEIS. These issues are more relevant to electrical energy generation from civilian nuclear power plants. See comment-response 1.J for additional information related to proliferation issues.*

- 1.N.1.A** A commentor stated that uranium is a non-renewable resource and that experts have told him we only have a 30 to 40 year supply and that when that runs out, we will be left with only nuclear weapons and nuclear waste.

Response: *The availability of and the longevity of uranium resources is beyond the scope of this PEIS. NNSA already possesses a more than adequate supply of uranium for purposes of the nuclear weapons program. NNSA's uranium that is surplus to the nuclear weapons program is made available for the manufacture of civilian nuclear reactor fuel. Nuclear waste is addressed in comment-response 14.M.*

1.O WAR ON TERROR

The following comments were received regarding the war on terror:

- Consolidation plans should account for possible terrorist attacks on DOE facilities;
- The production of nuclear warheads would increase the likelihood of a terrorist attack and would worsen the war on terror situation and nuclear weapon production is not a good way to fight terrorists.
- War is horrible; and
- The United States is not fighting the war on terror correctly.

Response: *As noted in Section 3.16.6 of Volume I of this SPEIS, NNSA conducted an assessment of potential impacts from intentional destructive acts, such as terrorism. The methodology used to evaluate potential impacts associated with a terrorist threat and the methodology by which NNSA assesses the vulnerability of its sites to terrorist threats and then designs its response systems and the results of that assessment are in a classified appendix to the SPEIS. The "horror of war" is beyond the scope of the SPEIS. The comments concerning the efficacy of the war on terror are noted; however, those issues are beyond the scope of the SPEIS. Only the President can authorize the use of nuclear weapons. Accordingly, the use of nuclear weapons is not within the scope of this SPEIS. See also comment-responses 7.E and 13 for further related discussion.*

1.P INTERNATIONAL ATOMIC ENERGY AGENCY INSPECTIONS

The following comments were received regarding International Atomic Energy Agency (IAEA) issues:

- All nuclear weapons material inventories in the United States should be placed under IAEA safeguards which would allow for IAEA inspections and ensure that it could not be used in weapons;
- As more nuclear weapons are disassembled, that material should also be placed under IAEA safeguards and inspections; and

- Facilities newly built or substantially modified should have transparency designed in to facilitate international inspection of all special nuclear materials.

Response: *Under the NPT and the Agreement Between the United States and the IAEA for the Application of Safeguards in the United States, the United States is not obligated to place facilities storing surplus nuclear weapons material under international control. IAEA inspection authority is limited as to Nuclear Weapons States (NWS), such as the United States, to listed facilities that have no direct national security significance. In the event that the United States places any facility storing this material under IAEA safeguards, as a NWS, it could withdraw such facility from IAEA safeguards without giving advance notification. So, even if the facilities where this material is stored are subject to IAEA inspection, there could be no “assurance that it [the nuclear material] could not be used in weapons.” One of the difficulties in placing surplus nuclear materials under IAEA safeguards is that the facilities storing the surplus material are also the facilities storing national security materials and international inspection of these facilities would be inconsistent with national security. DOE has had facilities storing some surplus SNM under IAEA inspection during the 1990’s. DOE has stated that it intends to apply IAEA safeguards to its surplus plutonium “as soon as practicable” (65 FR 1608, January 11, 2000). The United States and Russia have agreed to place surplus fissile nuclear materials removed from their nuclear weapons programs under IAEA verification. This SPEIS will not be used to inform decisions on the construction of storage facilities for surplus plutonium or enriched uranium where IAEA safeguards applicability might be appropriate.*

1.Q

UNDERGROUND TESTING

1.Q and 1.Q.1

The following comments were received regarding underground nuclear testing:

- The United States should continue the nuclear testing moratorium and never conduct additional underground tests;
- Maintaining the ability to conduct these tests sends the wrong message to other members of the world community;
- The United States must comply with the CTBT, which would preclude any underground testing by the United States;
- Commentors were opposed to any future tests;
- Implementation of new weapons designs, such as for the RRW program, would make return to testing more likely;
- Commentors questioned NNSA’s continued ability to certify the stockpile as reliable, safe and secure in the absence of testing and questioned how much longer NNSA’s Life Extension Program could avoid testing;

- Commentors questioned the extent of environmental harm done from past underground testing and questioned whether any future underground testing would cause similar harm;
- Groundwater at the Nevada Test Site (NTS) is contaminated by past testing; and
- The SPEIS needs to examine the environmental impacts of conducting underground tests.

Response: *Since September 1992, the United States has refrained from any weapons testing involving a nuclear detonation. The CTBT has not entered into force because the United States has not ratified the treaty and, therefore, does not constrain any activity of the United States. NNSA maintains the ability to conduct an underground nuclear test at the direction of the President within 24-36 months of receiving such direction (50 USC 2528a).*

The decision to develop an RRW would be made by the President and the Congress. NNSA will not make a decision on whether to proceed with an RRW based on this SPEIS.

A decision to conduct testing involving a nuclear detonation is outside the scope of Complex Transformation SPEIS. Such a decision would be made by the President, who would direct NNSA to conduct a test. The environmental impacts of underground nuclear testing were addressed in two EISs: Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (DOE 1996b) and Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (DOE 1996d).

2.0

NEPA PROCESS

Within this issue category, commentors stated that the Complex Transformation violates NEPA, and provided specific comments related to the NEPA process which are discussed in comment-responses 2.A through 2.K below.

Response: *NEPA requires the preparation of an Environmental Impact Statement for major federal actions significantly affecting the quality of the human environment. The SPEIS was prepared pursuant to NEPA and the DOE and CEQ implementing regulations. See comment-response 2.A for additional information on NEPA compliance.*

2.A

GENERAL NEPA PROCESS AND COMPLIANCE

The following comments were received regarding the general NEPA process and compliance:

- The Draft Complex Transformation SPEIS was difficult to read and understand;
- The environmental impacts of the use of a nuclear weapon should be analyzed in the Complex Transformation SPEIS;
- Commentors questioned whether the SPEIS is a political document or an environmental document;
- The NEPA process was not followed correctly and the analysis is flawed;
- By defining an alternative as supporting a stockpile smaller than what is needed, the SPEIS prejudices the outcome;
- Complex Transformation SPEIS is a good example of how NEPA should work;
- NNSA was thanked for providing such good information;
- Commentors appreciated the NNSA forum and hoped the NNSA would send their message of opposition to nuclear weapons to DoD and the White House; and
- New studies are needed and should be included in the SPEIS on the medical, public health, and climate impacts of the life cycle of the Complex Transformation proposal.

Response: *Changes have been made in the SPEIS to facilitate readability. The SPEIS was prepared by NNSA in response to the requirements of NEPA and the DOE and CEQ regulations. As such, NNSA believes that the Draft SPEIS was adequate. The Draft SPEIS assessed the direct, indirect, and cumulative environmental impacts of the reasonable alternatives for the proposed action and the No Action Alternative. In discussing alternatives, the NNSA uses different assumptions about stockpile size, some of which support current national policy and some that would not support it. This was done to help analyze sensitivities that might result in potential changes in configuration of the nuclear weapons complex in the event a new policy is implemented that results in a smaller stockpile. As explained in Chapter 1 of Volume 1 of the SPEIS, within the timeframe analyzed in the SPEIS, NNSA believes that nuclear weapons will remain a cornerstone of national policy. In response to public comments on the Draft SPEIS, NNSA has made changes to the SPEIS as described in Section 1.6.2.2 of Volume 1 of the SPEIS. Additionally, NNSA has prepared this Comment Response Document, which describes the comments received on the Draft SPEIS and NNSA's responses to those comments. Commentors should be aware that NEPA only applies to federal agencies and does not apply to the Office of the President. Whether DoD provides a forum for those opposed to nuclear weapons is beyond the scope of this SPEIS.*

NNSA makes use of current and well-documented scientific models and data that are widely used to analyze environmental impacts for the purpose of compliance with NEPA. The analysis methods used are essentially the same as those used in preparation of several DOE EISs that have recently been issued in final form or have been reviewed, in draft, by the public. In general, the

data, models, assumptions, and other information used in the SPEIS are drawn from published sources and have been subjected to scientific peer review. Chapter 12 of Volume II of the SPEIS lists the documented sources of information and Appendix B describes the methods used to assess impacts, including the models used in the analyses. With respect to the use of nuclear weapons, that issue is not within the SPEIS scope. See comment-response Section 14 for discussion related to specific resources. As described above, NNSA makes use of current and well-documented scientific models and data to analyze potential environmental impact. NNSA is unaware of any studies that have been conducted on climate impacts of the life cycle of the Complex, and such studies are not believed necessary to analyze the impacts of the proposed action or alternatives.

2.A.1

During the public comment period on the Draft SPEIS, the following comments were received regarding the manner in which NNSA addressed public scoping comments:

- The Draft SPEIS does not meet the minimum legal requirements for responding to public comments. While the Draft SPEIS acknowledges that 33,000 comment documents were received during scoping, it provides no index of the commentors, so commentors cannot determine that NNSA considered and responded to their scoping comments.
- The SPEIS was not responsive to the concerns of the public as expressed in their comments on scoping.
- Even though the NTS is not considered a Preferred Alternative for consolidating plutonium and SNM facilities, the Draft SPEIS nevertheless fails to adequately address key concerns raised by Nevada in its December 2006 scoping comments including, but not limited to, the fundamental problems with the NTS site itself, cumulative impacts associated with the proposed Yucca Mountain high-level radioactive waste repository, current and future activities at NTS, the transportation of SNM both in Nevada and nationally, and the proposed relocation of NNSA flight test operations from the Tonopah Test Range (TTR) to another DoD facility.

Response: *NNSA considered all scoping comments in developing the SPEIS and believes that the SPEIS is responsive to these scoping comments. For example, as a result of the scoping process, NNSA made the following significant changes to the scope of the SPEIS as originally described in the 2006 NOI:*

- *A Consolidated Centers of Excellence (CCE) Alternative was added as a reasonable alternative (Section 3.5 of Volume I).*
- *A discussion was added of effects on the Complex of an even smaller nuclear weapons stockpile than the current level envisioned under the Moscow Treaty (Section 3.6.3 of Volume I).*

- *A discussion was added of an RRW's possible impact on the nuclear weapons stockpile and decisions about Complex Transformation. An analysis was added to determine what, if any, changes to the Complex would be required if an RRW were to be developed (Chapter 2 of Volume I).*
- *A more detailed analysis of the potential impacts of NNSA flight testing was added in order to inform the public and NNSA of the potential socioeconomic impacts on the Tonopah community from the alternatives (Section 5.15.4.2 of Volume II).*
- *An analysis of a smaller pit production capacity (50–80 ppy) was added (Section 3.4.1.2 of Volume I).*
- *A more detailed explanation of why the KCP's operations are not included in this SPEIS was added (Section 1.5.2.1 of Volume I).*

Each of these changes was included in the Draft SPEIS issued for public review. Section 1.6.2 of Volume 1 of the SPEIS presents summaries of the scoping comments and their disposition. Appendix D of the SPEIS presents more details regarding NNSA's consideration of scoping comments. Chapter 6 of the SPEIS presents cumulative impacts. See also comment-response 14.O.5 for more information on cumulative impacts regarding NTS.

2.A.2

Commentors stated that the hearing process was insufficient to evaluate the environmental impact of the proposed Complex Transformation program and that new studies are needed on the medical, public health, and climate impacts of the life cycle of the Complex Transformation proposal, specifically including the prospective testing and use of the nuclear weapons it would produce.

Response: *The hearing process, including 20 public hearings in 13 cities, was only a part of the NEPA process for Complex Transformation. The SPEIS includes analysis of public health issues associated with the proposed actions and alternatives, and uses the best available information. This information is presented in Chapter 5 and more specific information on human health is presented in Appendix C. The environmental impacts of testing or use of nuclear weapons are beyond the scope of the SPEIS. Comment-responses 1.Q and 1.Q.1 provide additional information on underground nuclear weapons testing. Use of nuclear weapons is not an action under the purview of NNSA and therefore not within the scope of this SPEIS. See comment-response 2.A for discussion of additional studies of climate impacts.*

2.B

SPEIS VERSUS NEW PEIS

Commentors stated that NNSA should prepare a stand-alone PEIS rather than a Supplement to a PEIS that is more than 10 years old. Some commentors concluded that as a matter of law NNSA must stop the SPEIS process and instead issue a new, stand alone Draft PEIS if it intends to consider a proposed action of new-design nuclear weapons.

Response: *The Stockpile Stewardship and Management Program (SSMP) has existed since before the creation of DOE going back to the Energy Research and Development Administration and the Atomic Energy Commission. This Complex Transformation SPEIS represents an updating of the Stockpile Stewardship and Management PEIS to provide a current environmental analysis of the proposed action and its reasonable alternatives. The SPEIS analyzes a continuing reduction in the size, locations and capacity of the nuclear weapons complex to reflect changing conditions in the world that have allowed a continued reduction in the nuclear weapons stockpile maintained by this nation for national security purposes. Complex Transformation reflects the new purpose and need brought about by these changes. This SPEIS could have been prepared as a standalone PEIS, and it would have been substantially the same. The public involvement process used by NNSA in preparing the SPEIS and the breadth and rigor of impact analysis are not different because this is a Supplemental PEIS. The proposed action is not premised on new-design nuclear weapons.*

2.C

STAKEHOLDER INVOLVEMENT

The following comments were received regarding stakeholder involvement:

- NNSA should provide funding to independent organizations for the purpose of obtaining an independent review of the SPEIS and its references;
- Tribal members were not sufficiently included in NNSA's planning system; arrangements should be made to include them in such important issues;
- NNSA should provide funding to the tribes to have independent laboratory tests done of air and water pollution; and
- There is no rational basis for excluding the Kansas City Plant from the Complex Transformation SPEIS, other than DOE's desire to move forward with a new Kansas City Plant with a lower level of environmental analysis and less public involvement.

Response: *The SPEIS was prepared pursuant to NEPA and the DOE and CEQ implementing regulations. NEPA and the agency regulations provide mechanisms for involvement of stakeholders, including non-governmental organizations, tribal members and other members of the public, in the preparation of an EIS such as this SPEIS. There is no requirement under NEPA or its implementing regulations that would require NNSA to provide funding for independent organizations to obtain an independent review of the SPEIS or its references; nor is there a requirement that NNSA provide funding for the conduct of independent laboratory testing of air and water pollution. NNSA has provided numerous opportunities for interested stakeholders, including tribal governments and members of those tribes, to obtain information and provide comments as part of the process established by NEPA for the preparation of*

EISs. NNSA believes that it has complied fully with all requirements for the preparation of this SPEIS, including those related to involvement of stakeholders.

The comment relating to NEPA compliance regarding the Kansas City Plant is addressed in comment-response 12.

2.C.1 NOT USED

2.C.2 Some commentors believed it was inappropriate for LANL contractor employees to provide comment (as LANL employees as distinguished from private citizens) at the hearings.

Response: *NNSA may not refuse comments or limit participation in the NEPA process. If LANL employees were providing comments on behalf of LANL and they identified themselves as such, it is up to their employer to determine if their comments were consistent with the position or policy of the organization.*

2.C.3 A commentor stated that their limited tribal resources were being used to conduct monitoring and respond to NNSA's Complex Transformation SPEIS. This use of tribal resources negatively impacted self-governance due to the deployment of limited human and technical resources from normal day-to-day affairs and did not allow for adequate participation in the SPEIS NEPA process. Because such funding issues impact tribal fiscal balances, the commentor requested funding to monitor and respond to the SPEIS.

Response: *NNSA appreciates the time and effort expended by all those who thoughtfully review and provide comments on its NEPA documents. Reviewing and providing comments on draft EISs and EAs is a voluntary activity on the part of those who have an interest in proposed federal actions.*

2.C.4 Impacts to the government-to-government relationship between the Western Shoshone tribes and the Federal government are further strained over conflict in ownership of the NTS and TTR.

Response: *NNSA's Nevada Site Office has a long history of consulting on a government-to-government basis with American Indian tribes, including the Western Shoshone, through the Consolidated Group of Tribes and Organizations (CGTO). DOE's relationship with the CGTO began in 1991 and has included several significant milestones: (1) The first time American Indian tribes played an active role in the development of a major federally-sponsored EIS (the NTS SWEIS) from the early planning stages to the publishing of the final document; (2) Inclusion of American Indian monitors in NTS archaeological projects; (3) The NTS American Indian Rock Art Study, which responded to general cultural concerns for a highly significant American*

Indian resource on the NTS; and (4) Native American Graves Protection and Repatriation Act consultation on the NTS collection and eventual repatriation and reburial of items qualified by CGTO representatives (see Halmo 2001 in Chapter 12 of Volume II).

2.D PROCESS NOTIFICATION

Commentors stated that NNSA could have provided broader coverage for notices for the hearings. Those commentors stated that many people were unaware of the hearings and therefore their input was not obtained.

Response: *NNSA followed CEQ and DOE NEPA Guidance for notice and conduct of public meetings. NNSA published a schedule of meetings in the Federal Register (73 FR 2023, January 11, 2008), on the SPEIS website, and advertised the times and locations for them in local newspapers prior to each of the 20 meetings in 13 cities.*

2.E LENGTH OF COMMENT PERIOD, NUMBER AND LOCATION OF PUBLIC HEARINGS

The following comments were received relative to the length of the public comment period, and the number and location of public hearings:

- The public hearings are biased as they were located in areas that benefit from nuclear weapons production projects;
- A public hearing should be held in Española, New Mexico, which is downwind of LANL and home to low income and minority populations who are unable to travel the distance on poor roads;
- Public hearings should be held in Taos County, New Mexico; there should be one additional hearing geared toward and translated for the indigenous populations in New Mexico;
- NNSA should hold meetings in major cities with at least one hearing in each state;
- NNSA should hold meetings at various locations in the country and also extend the comment period ranging from 60-120 days;
- If a nuclear attack were to occur it would be on population centers, so public hearings should be held in major population centers for a project of this scale; and
- The length of the public comment period should not be extended.

Response: *NNSA conducted 20 public hearings in 13 locations around the country, including in Española, NM and Washington, D.C. Most of those hearings were conducted in cities located near NNSA facilities, where impacts from proposed changes could occur. These hearings enabled a substantial number of interested parties to participate and offer oral and written comments. In addition to public hearings, NNSA provided many other ways for*

interested parties to submit comments, including e-mail, via the world wide web, facsimile, and regular mail. All comments were considered equally, regardless of the manner submitted.

- 2E.1** Commentors requested extensions of the comment period. Commentors stated that adequate time for significant public participation and complete response to public comment also is required.

Response: *The comment period on the Complex Transformation SPEIS was originally set for 90 days (from January 11, 2008 until April 10, 2008). This comment period was twice as long as the minimum required by CEQ. Prior to the end of this comment period, NNSA extended the public comment period by 20 additional days, until April 30, 2008 (73 FR 19829, April 11, 2008). This*

Comment Response Document provides NNSA's response to all comments received, including late comments.

- 2E.2** Commentors stated that NNSA should have held a hearing in Taos, New Mexico. Commentors stated that the Complex Transformation public hearings were only conducted at cities near NNSA facilities and that maintaining and building nuclear weapons are national issues which impact all people. Accordingly, hearings on such issues should have been conducted in all major cities.

Response: *NNSA held 20 public meetings in 13 cities near NNSA facilities where impacts resulting from proposed actions could occur. In addition, NNSA held one meeting in Washington, D.C. This large number of meetings enabled a substantial number of interested parties to participate and offer oral and written comments. Although some commentors requested additional meetings in Taos, NNSA believed that these interested parties could be served by the meetings in Santa Fe, Socorro, Española (which is in Taos County, NM), Los Alamos, and Albuquerque. In addition to the public hearings, NNSA also provided many other ways for interested parties to submit comments, including e-mail, via the world wide web, facsimile, and regular mail. All comments were considered equally regardless of the manner submitted. See comment-response 2.E for related discussion.*

2.F PUBLIC HEARINGS AND FACT SHEETS

A commentor observed that the LANL fact sheets available at the hearing provided information in conflict with the Complex Transformation fact sheets available at the hearing.

Response: *Fact sheets used at the Complex Transformation public meetings were prepared with a national message so as to be applicable at each of the 20 meetings held around the nation. At the Albuquerque, Los Alamos and Santa*

Fe meetings, employees from LANL brought site-specific fact sheets addressing issues related to LANL. The LANL fact sheets were not used by NNSA in conducting its analysis .

2.F.1 A commentor stated that translation service should have been provided

Response: *NNSA did not receive any requests for translators prior to any meeting, but would have considered such a request if one had been received. A hearing interpreter was requested and provided for the hearings at Oak Ridge.*

2.G PUBLIC HEARING PROCESS

The following comments relative to the public hearing process were received:

- Similar hearings occurred in 2007. It appears that the comments voiced during those hearing were disregarded and now a new set of hearings is offered, perhaps with the hopes that the public opinion will be what NNSA wants to hear;
- The SPEIS hearings are the only forum available for the public to state their opposition to nuclear weapons, current national security policies, and other Administration policies with which they disagree;
- NNSA was thanked for listening even though their concerns went beyond the purpose of the hearing;
- In a given area, in view of the short time period available, people who had already provided comment at another session should not have the opportunity to comment until all new commentors had been heard.

Response: *The commentor is apparently referring to the scoping meetings for the Complex Transformation (originally called “Complex 2030”) SPEIS that were conducted in November and December 2006. Those scoping meetings were intended to gather issues and concerns that would shape the Complex Transformation SPEIS. NNSA considered the scoping comments that were provided, as noted in sections 1.6.1 and 1.6.2 of the Draft SPEIS. The purpose of the public hearings on the Draft SPEIS was to allow the public to comment on the document. The public scoping meetings and public hearings were conducted in compliance with both Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Parts 1500—1508) and DOE NEPA Implementing Procedures (10 CFR Part 1021).*

Opposition to nuclear weapons and other Administration policy issues are noted. NNSA did not prohibit or discourage anyone from making such statements at the public hearings. Each public meeting was unique, but followed the same format and guidelines. It is true that some commentors made identical presentations at more than one session in several cities. Their participation at more than one hearing did not preclude anyone from speaking.

To deny someone the opportunity to present oral comments, based on participation at previous meetings, however, would have been arbitrary, potentially disruptive, and not within the spirit of the open forum in which the public meetings were held. See comment-response 2.A for related discussion.

2.H AVAILABILITY OF INFORMATION

The following comments relative to the availability of information were received:

- NNSA was complimented for making the SPEIS and its references available electronically via the world-wide web in a timely fashion;
- The SPEIS and the references were complicated and hard to understand;
- NNSA headquarters is unresponsive to information requests; and,
- NNSA should consider and include in the SPEIS any relevant information from the 2008 LLNL Site Plan (which the commentor is attempting to obtain).

Response: *NNSA is aware that the Complex Transformation SPEIS includes a substantial number of alternatives, at a substantial number of sites, and deals with complex subject matter. This is the nature of the nuclear weapons complex and the proposed actions and reasonable alternatives. To present this to the public required a substantial amount of complex information. NNSA made every effort to define terms, use text boxes and employ a number of other methods to make this information easier to read and understand by the public. NNSA has provides access via the web and in public reading rooms to all publicly available references that were relied upon in preparing the SPEIS. The NNSA sites, including LLNL, contributed to the preparation of the SPEIS and provided the latest available information, some of which could have been later information than would have been available to prepare the LLNL Site Plan. Information that is relevant to the LLNL Site Plan and the SPEIS is included in the SPEIS. See comment-response 2.H.1 for related discussion.*

2.H.1

One commentor stated that issuance of the SPEIS should be delayed until such time that NNSA has provided the documents requested by the 10 *Freedom of Information Act* requests made in November 2006. Comments suggested that very few people have the necessary knowledge or information to understand and analyze the ramifications of Complex Transformation.

Response: *NNSA has provided all publicly available references that were relied upon to prepare the SPEIS by internet and in public meeting rooms. The Freedom of Information Act process to obtain documents is independent from the NEPA process and there is no requirement to delay issuance of a NEPA document as the commentor requested. Documents that were not relied upon to prepare the SPEIS are not referenced in the SPEIS, are not part of the Administrative Record for the SPEIS, and have not been made available on the*

internet as part of this SPEIS process.

2.H.2

Commentors stated that the Draft SPEIS does not rigorously evaluate all reasonable alternatives adding that the two primary functions of EISs are to require that agencies take a “hard look” at environmental consequences, and provide for broad dissemination of relevant environmental information.

Response: *The alternatives addressed in this SPEIS cover the range of reasonable alternatives that meet national security requirements or requirements that could reasonably evolve from any changes to national policy. NNSA believes that this SPEIS takes the requisite “hard look” at potential environmental consequences and that NNSA has broadly disseminated or made relevant environmental information available on the internet, direct mailings to people expressing interest, and other methods including advertisements in local newspapers and publication of notices in the Federal Register.*

2.I

NEPA COMPLIANCE

Comments stated that the SPEIS does not comply with the NEPA process because it does not consider the direct, indirect and cumulative effects of the proposed project in conjunction with the policies and the reasonably foreseeable future actions of other agencies or persons. Another commentor stated that the SPEIS does not comply with the NEPA process because it doesn't adequately demonstrate the safety of the Complex Transformation plan.

Response: *NNSA addressed potential cumulative impacts resulting from Complex Transformation and ongoing and reasonably anticipated actions of NNSA and other agencies and private developments. The assessment of cumulative impacts is in Chapter 6 of Volume II of the SPEIS. Information related to compliance with NEPA is in comment-response 2.0, above. See comment-response 14.O for related discussion regarding environmental impact analysis.*

2.I.1

A commentor stated that plutonium disposal through mixed-oxide (MOX) fuel would result in substantial risks during transportation to workers and the public. Workers would be exposed during loading, unloading, and transportation. In addition, conversion of plutonium to MOX would create additional risks and exposures and environmental contamination. Thus, DOE should revisit and reconsider its Record of Decision regarding plutonium immobilization and/or vitrification as part of the plutonium consolidation process.

Response: *The decision to dispose of surplus plutonium by conversion to MOX for commercial reactor fuel was previously made by DOE in the ROD for the Surplus Plutonium Disposition PEIS (65 FR 1608, January 11, 2000). NNSA is not revisiting that decision in this SPEIS. See comment-response 20 for related discussion.*

- 2.I.2** In accordance with NEPA and Section 309 of the Clean Air Act, the Environmental Protection Agency (EPA) reviewed the Draft SPEIS. The EPA does not object to the proposed action and has rated the Draft SPEIS as Lack of Objections.

Response: *NNSA notes the EPA review and rating.*

2.J **SPECIFIC EDITORIAL COMMENTS ON THE SPEIS**

Commentors noted that there are many factual and typographical errors in the Draft SPEIS. Some commentors stated that the Draft SPEIS must be substantially revised and re-issued for public comment to correct those major deficiencies because the Draft is so inadequate as to preclude meaningful analysis. Commentors provided the following examples:

- Contrary to the statement (at page 2-5), President Clinton did not direct the nuclear testing moratorium in 1992. It was President George H.W. Bush.
- Pages 3-124 and 5-405 state that Table 3.7-2 shows the requirements for a new Zone 12 pit storage facility at Pantex. However, Table 3.7-2 actually relates to LLNL, not Pantex. Table 3.7-3 relates to Pantex. The analysis of alternatives and environmental impacts in the Draft SPEIS regarding pit storage is grossly inadequate and cannot serve as the basis for any decisions about pit storage.
- Pages 5-308 and 5-313 provide very different amounts of legacy TRU waste inventory at the Savannah River Site (SRS) while citing the same source document. Page 5-308 states that the inventory is 43,167 cubic yards of legacy TRU waste (WSRC 2002a). In contrast, Page 5-313 states that the inventory is 14,389 cubic yards of legacy TRU waste (WSRC 2002a). Clearly, the two figures, one of which is three times higher than the other, cannot both be correct. The commentor believes that neither figure is accurate based on more recent documentation, including the WIPP inventory for the Environmental Protection Agency recertification.
- Pages 3-165 and 6-15 also use apparently inconsistent TRU waste volumes. Page 3-165 shows that TRU waste generation at SRS in 2001 was 64.1 cubic yards of TRU and 380 cubic yards of Mixed TRU. Page 6-15 shows current SRS TRU waste generation as 88 cubic yards. The TRU waste volume numbers are not credible.
- Section E.5.1, lines 37-45 states: the need for pumping groundwater would be substantially reduced to approximately 730,000 acre-feet per year by 2060. The figure 730,000 acre-feet per year is incorrect when

compared to the USGS projections. A telephone call made by Citizen Action to the City of Albuquerque water utility authority confirmed that the figure is incorrect by a very large margin of error. Also, the current aquifer usage for the City of Albuquerque is not provided by section E.5.1. The draw down on the aquifer for SNL should be provided. The volume of water that would be contaminated by radionuclides or hazardous waste from Complex related operations must be provided. The entire SPEIS is riddled with mistakes and must be redrafted and resubmitted to the public.

- The citation for Roybal (1991) is incomplete.

Response: *NNSA believes that the Draft SPEIS was adequate to provide for meaningful analysis and comment. The Final SPEIS includes corrections to these and other errors identified in the Draft SPEIS. NNSA notes that the SPEIS is a complex document of more than 1,000 pages which addresses the operations at many nuclear weapons sites. In preparing the SPEIS, NNSA utilized a multi-step quality assurance process to review the SPEIS and ensure the document would be as complete and accurate as possible. Changes to the SPEIS are identified by vertical bars in the margin. The Final SPEIS includes a comprehensive CRD that considers and responds to all comments received on the Draft SPEIS. This CRD presents the comments received by NNSA (oral comments provided at public hearings and those submitted in writing) and NNSA's responses to those comments. NNSA has revised the SPEIS to correct and update information in the document. For example, a substantial amount of site specific data has been revised to correct and update the information and all of the textual errors referred to in comments received have been corrected in the appropriate text. Where appropriate, changes have been made to the SPEIS. The reference for Roybal (1991) has been updated.*

2.K

SPECIFIC COMMENTS—CHAPTERS 1 THROUGH 3

2.K.1

Addressing the discussion of the requirement to maintain the U.S. nuclear weapons stockpile found on page 1-1 of the Draft SPEIS, a commentor stated that “It is by no means obvious, inevitable, or reasonable to conclude that a requirement to ‘maintain the U.S. nuclear weapons stockpile’ and ‘core competencies in nuclear weapons’ can only be met by a program that ‘emphasizes development and application of greatly improved scientific and technical capabilities’ for assessing the ‘safety, security, and reliability of existing nuclear warheads’-much less the design of new weapons such as NNSA's proposed Reliable Replacement Warhead—‘without the use of nuclear testing.’”

Response: *As weapons continue to age beyond their expected design life, it is reasonable to anticipate that problems may be detected that will need to be fixed to maintain safety and reliability. Nuclear weapons contain many*

different types of organic materials that will deteriorate with time even without the effects of the intrinsic radiation present in the weapon. The goal of science-based stockpile stewardship is to understand and predict the effects of observed changes in the weapon due to aging or other causes. While much progress has been made in developing the computation and simulation tools to model and predict weapon behavior, much still needs to be done. Replication and remanufacture of parts is an oversimplification often mentioned as an alternative to improved scientific and technical capability; some limitations of sole reliance on this approach were discussed in the original SSM PEIS (DOE 1996d). Moreover, this line of reasoning ignores the fact that improved scientific and technical capability is needed to make the judgment that an observed defect does not need to be fixed, thus avoiding the cost and risk of fixing weapons unnecessarily.

2.K. 2

A commentor addressed the following statement on page 1-8 of the Draft SPEIS: "Since the inception of nuclear weapons, the United States has maintained a safe and reliable nuclear deterrent force."

The commentor asserts: "This statement is grossly oversimplified, historically inaccurate, and at variance with NNSA's own assertions about serious safety and reliability problems in the stockpile from the late 1950's through the early 1980's."

Response: *The statement was not intended to mean that there were never problems with the safety and reliability of individual weapon types in the stockpile. Quite the contrary; the SSM PEIS explained, in reasonable detail, the history and issues of stockpile defects (see Sections 2.3.3 and 2.3.4 of DOE 1996d). What this statement meant to convey is that when problems were discovered in the stockpile they were taken seriously and resolved using the technical capabilities and capacities present in the complex.*

2.K.3

A commentor stated that the following statement on page 1-9 of the Draft SPEIS is technically and historically incorrect: "In October 1993, President Clinton issued Presidential Decision Directive 15 (PDD-15), which directed DOE to establish the Stockpile Stewardship Program. PDD-15 significantly redirected the nuclear weapons program. Throughout the Cold War, the DoD and the nuclear weapons laboratories had based much of their confidence in the reliability of nuclear weapons on performance data from atmospheric and underground nuclear tests."

Response: *Chapter 2, Section 2.3.3 of DOE 1996d, contains a discussion on the role of nuclear testing. NNSA believes the statement is correct.*

2.K.4

A commentor stated the following sentence on page 1-9 of the Draft SPEIS is misleading: "However, since 1992, the U.S. has been observing a moratorium on nuclear testing."

Response: *NNSA does not believe there is anything wrong or misleading in the statement. The last such test was conducted on September 23, 1992.*

2.K.5

A commentator stated that the following statement on page 1-9 of the Draft SPEIS is “another egregious example of distorting the historical record”: “DOE deferred spending on the production complex because there were no new weapons production requirements and because of uncertainty about the future stockpile requirements.”

Response: *NNSA disagrees with the commentator; the statement in question is accurate.*

2.K.6

A commentator stated that the statement on page 1-10 of the Draft SPEIS that the Atlas Facility was constructed and is operational at LANL is erroneous.

Response: *The commentator is correct and the text has been changed. The Atlas Facility was constructed at LANL, but was subsequently moved to the NTS. Full-scale assembly of the Atlas Facility at LANL was completed in August 2000 and was scheduled to begin operation in June 2001. In May 2001, NNSA decided to relocate the Atlas facility to the NTS. The Atlas machine was disassembled and transported to the NTS, where it was installed in a new building and began operating. Experiments were conducted with Atlas at the NTS until it was placed in cold standby in 2006, pending funding to resume experiments.*

2.K.7

A commentator stated that the following statement, regarding the 1993 Non-Nuclear Consolidation Environmental Assessment (DOE/EA-0792) on page 1-11 of the Draft SPEIS, is not entirely true: “The Non-Nuclear Consolidation EA analyzed the proposed consolidation of the facilities within the Complex that manufactured non-nuclear components for nuclear weapons.” The commentator stated that some “nuclear” component manufacturing was included in that EA.

Response: *It is true that the Non-Nuclear Consolidation EA of 1993 considered tritium component surveillance activities at the Mound Plant and neutron tube target loading at the Pinellas Plant to be “non-nuclear” activities. The work scope covered by the 1993 EA was predominantly manufacturing activities involving non-radioactive materials (stainless steel, beryllium, high explosives, ceramics, electronic components, etc.) at the Mound, Pinellas, and Rocky Flats Plants.*

The limited amount of tritium work at Mound and Pinellas could have been analyzed in the 1996 Stockpile Stewardship and Management PEIS, which predominately focused on nuclear activities such as plutonium, enriched uranium, and weapons assembly/disassembly work, or it could have been

analyzed with non-nuclear manufacturing activities at the Mound, Pinellas, and non-nuclear portion of Rocky Flats Plant in the 1993 EA. Analysis of tritium activities in the SSM PEIS would have involved a delay of 2-3 years in the implementation of the cost saving activities due to closure of the three plants. In addition, because of the relative hazards involving the small quantities of tritium and the desire to avoid analyzing the work at Mound and Pinellas in separate NEPA documents, DOE decided that it was better to analyze the Mound and Pinellas tritium work in the Non-Nuclear Consolidation EA. DOE did not classify tritium as a non-nuclear material; rather it grouped activities in a reasonable manner based on location and hazards in order to perform effective NEPA analyses. The United States District Court in Washington, D.C., on August 8, 1998, found the 1996 SSM PEIS to be adequate.

2.K.8

With respect to the following statement on page 1-25 of the Draft SPEIS: "A more detailed explanation of why the Kansas City Plant non-nuclear operations are not included in this SPEIS was added (see Section 3.2.10)." A commentor stated: "The referenced Section does not exist, or perhaps exists somewhere else in the document in a differently numbered section."

Response: *The commentor is correct. This reference was to an earlier version of the Draft SPEIS that included this discussion. The text from that section was moved in Volume I of the SPEIS to Section 1.5.2.1. The SPEIS has been changed to correct this error. See comment-response 12.O for related discussion.*

2.K.9

A commentor addressed the following statements on page 2-5 of the Draft SPEIS: "The U.S. Senate has not ratified the CTBT; however, the U.S. has been observing a moratorium on nuclear testing that was first directed by President Clinton in 1992." This commentor stated that the sentence is factually incorrect.

"It has been almost 15 years since the last U.S. nuclear test and more than 15 years since the last new nuclear weapon entered the stockpile. While no issues have yet developed in maintaining legacy weapons that would require a return to nuclear testing in the reasonably foreseeable future, there is concern that the current weapon 'life extension' approach to maintaining a safe and reliable stockpile will not ultimately, over the longer term, allow a continued moratorium on testing as weapons continue to age." The commentor stated that this passage "is tendentious in the extreme and unsupported by any credible independent technical authority known to the commentor."

Response: *The SPEIS has been corrected to indicate that the President in office in 1992 was George H.W. Bush. NNSA does not believe the statement to be biased and believes its concern that the Stockpile Stewardship Program, including the Life Extension Program, may not allow a continued testing moratorium over the long-term to be technically well founded. Past experience*

with the stockpile further demonstrates the technical basis for that concern.

2.K.10

A commentor addressed the discussion on the *Treaty on the Non-proliferation of Nuclear Weapons* on page 2-5 of the Draft SPEIS asserting that “the draft SPEIS misstates the U.S. NPT obligation. There is nothing in NNSA's statutory obligations that bars it from conducting NEPA analysis that fully considers and meaningfully compares the environmental benefits to be realized from moving to dramatically smaller nuclear weapon stockpiles, different technical paradigms for stockpile stewardship than the present one, and successively higher degrees of complex consolidation. NNSA is simply exercising - indeed abusing -- its agency discretion and arbitrarily choosing not to consider such alternatives, and then hiding behind an egregious over-reading of certain of its statutory obligations while ignoring its legal obligation under NEPA to consider "all reasonable alternatives”.

Response: *The SPEIS considers a range of alternatives that includes a range of stockpile assumptions that include options that would not meet current or reasonably foreseeable national security requirements. In response to this and related comments, a new alternative, referred to as the No Net Production/Capability-Based Alternative has been included in the SPEIS (see Section 3.6.2 of Volume 1). See comment-response 1.F for related discussion.*

2.K.11

A commentor addressed the following statement from page 2-6 of the Draft SPEIS: "Weapon reliability is assessed annually based in part on laboratory and surveillance tests on a relatively small number of each weapon type. There can be no ‘end-to-end’ functional test of a complete nuclear weapon in its ‘stockpile-to-target’ environments. In lieu of this, laboratory and flight surveillance tests are conducted at the component and subsystem levels and the data are combined and analyzed to produce a reliability estimate for the weapon. While this methodology is adequate for estimating the current reliability of a weapon, it does not provide high-confidence predictions of the future behavior of an aging weapon. Because of these uncertainties, NNSA needs to plan some excess capacity beyond known requirements to be able to respond to unknown policy and technical issues that may arise over the next decades."

The commentor stated that “NNSA is inventing mandates for itself out of whole cloth and pretending that these are immutable realities that shape and limit its consideration of alternatives for the nuclear weapons complex. We are aware of no NNSA statutory obligation that requires NNSA to provide ‘high-confidence predictions’ of the future behavior of an aging weapon. NNSA's mission is to maintain a reliable weapons stockpile by conducting regular surveillance and sampling activities, detecting any signs of deterioration, and correcting these deficiencies in a cost-effective manner.”

Response: *NNSA is required by section 3141 of the National Defense Authorization Act for Fiscal Year 2003 (Pub. L. 107-314) to certify annually that the stockpile is safe and reliable. This requires that NNSA be able to make “high confidence predictions of future behavior of an aging weapon.” It is NNSA’s inability to predict the future with certainty that requires it to judiciously maintain its capabilities to fix problems that might arise in the future. This mission is fulfilled through a science-based stockpile stewardship program directed by Congress in section 3135 of the National Defense Authorization Act for Fiscal Year 1994 (Pub. L. 103-160). See Chapter 3 of Volume I of the SPEIS for a description of all alternatives considered. NNSA believes that improvement in technical capability (which includes computational, simulation and experimental tools) will help assure a safe and reliable stockpile. This is a matter of NNSA’s technical judgment.*

2.K.12

A commentator disagreed with NNSA’s statement from page 2-7 of the Draft SPEIS that the “2001 Nuclear Posture Review mandated a smaller U.S. nuclear weapons stockpile, but also a more robust and responsive infrastructure as part of the deterrence strategy.” The commentator stated that a more robust and responsive infrastructure, as part of a deterrence strategy, is not part of NNSA’s statutory mandate, and therefore it can not be relied upon to define the agency’s purpose and need for action, or truncate the range of reasonable alternatives.

Response: *The quoted text has been revised to reflect that the 2001 Nuclear Posture Review “provides for,” rather than “mandates a” smaller stockpile. NNSA is authorized to design and manufacture nuclear weapons under Section 91a (2) of the Atomic Energy Act of 1954, (42 USC §2121a (2)) as directed by the President. Such direction is required to be made annually. As long as this nation has nuclear weapons, it requires a nuclear weapons complex that is able to respond to the President’s direction. NNSA is also required to support the annual stockpile certification that the stockpile is safe, secure and reliable. In the judgment of NNSA, it is compelled to possess the “core competencies” to meet these statutorily derived requirements. The SPEIS examines alternatives that could support a range of nuclear weapons stockpiles that reasonably could be foreseen to be directed by the President, including several that represent a substantial reduction from the levels contemplated by the Moscow Treaty. See comment-response 1.C for a description of the process used by NNSA to define its programmatic requirements, including the requirement for a robust and responsive infrastructure. See also comment-responses 7K and 8.B for a related discussion.*

2.K.13

A commentator addressed the following statement from page 2-7 of the Draft SPEIS: "While this methodology is adequate for estimating the current reliability of a weapon, it does not provide high-confidence predictions of the future behavior of an aging weapon. Because of these uncertainties, NNSA needs to plan some excess capacity beyond known requirements to be able to

respond to unknown policy and technical issues that may arise over the next decades.”

Response: *NNSA is required by statute to certify annually that the stockpile is safe and reliable. This requires that NNSA be able to make "high confidence predictions of future behavior of an aging weapon". It is NNSA's inability to predict the future with certainty that requires it to judiciously plan its capacities to fix problems that might arise in the future. This mission is fulfilled through a science-based stockpile stewardship program. See comment-response 2.K.12 for related discussion.*

2.K.14

A commentor addressed the following statement from page 2-10: "A reliable and responsive infrastructure is a cornerstone of the new triad discussed in the 2001 Nuclear Posture Review (Figure 2-2) and in section 3111 of the National Defense Authorization Act for FY 2006 (Public Law 109-163). The purpose of a reliable and responsive infrastructure is to deter adversaries from trying to seek advantage - an attempt to seek advantage would be detected and negated by a quick response."

The commentor stated with regard to this: "This statement inaccurately and misleadingly conflates the hawkish theorizing of the 2001 Nuclear Posture Review Report to Congress with NNSA's statutory responsibilities as outlined in Section 3111 of Public Law 109-163. The latter does not discuss or reference a 'responsive infrastructure' as being the 'cornerstone' of a 'new triad' The offending paragraph should either be deleted, or in the alternative, amended to correct the misleading conflation of two disparate and unequal sources for NNSA policy guidance. If the paragraph stays, NNSA should explain what meaningful nuclear advantage a future adversary might plausibly seek over the United States, and how the 'responsive infrastructure' would be employed to quickly 'negate' this advantage."

Response: *NNSA disagrees; the statement is an expression of NNSA opinion and correctly describes NNSA's view. The role of the 2001 Nuclear Posture Review in the establishment of NNSA requirements is described in comment-response 1.C. See also comment-responses 8.B and 12.K.12 for related discussion.*

2.K.15

A commentor questioned NNSA's statement on page 2-10 of the Draft SPEIS that "A more responsive infrastructure is expected to permit further reductions in the weapons stockpile. In the context of the SSP, this responsiveness could permit deeper reductions in the total weapons stockpile that supports the deployed stockpile."

The commentor stated: "In what way would a more responsive infrastructure permit deeper reductions in the total weapons stockpile that supports the

deployed stockpile? Since when do inanimate facility capabilities dictate what may or may not be in the national and global security interest? If NNSA is going to assert this linkage, it needs to back it up with some serious numbers and analysis, so the environmental tradeoffs between a smaller stockpile with a responsive infrastructure and a larger stockpile without one can be assessed.”

Response: *A more responsive infrastructure would enhance the confidence of decision makers, including the President and Congress, that the nuclear weapons complex could respond in a timely manner to changing requirements resulting from changes in national policy or the status of existing weapons. The range of alternatives in the SPEIS includes analysis of a less responsive infrastructure -- the No Action Alternative -- as well as a number of alternatives that would provide an infrastructure with varying responsive capabilities. See Chapter 3 for a discussion of the alternatives evaluated. As NNSA continues to dismantle weapons to achieve the number necessary to support an operationally deployed stockpile based on the Moscow Treaty, the number of augmentation weapons as described in Chapter 2 of Volume I retained in the total stockpile will be a function of the responsiveness of the complex to fix stockpile problems in a timely way. This is not a calculated certainty because there is not sufficient technical capability to predict exactly what may go wrong in a stockpiled weapon. Further, the SPEIS includes a No Action Alternative and proposed actions to create a more responsive infrastructure which reasonably bound without undue speculation the environmental impacts of judgments in this regard.*

2.K.16

A commentor addressed the production capacity planning assumptions from page 2-12 of the Draft SPEIS, stating: “We note that nuclear production alternatives actually concern production of nuclear weapon *components*, not weapons. But the slip is revealing. The cited production rate for nuclear weapons also depends, somewhat ironically in this instance, on the capacity of non-nuclear component manufacturing alternatives that have been illegitimately excluded from this analysis, and on the sizing of final assembly facilities at Pantex. How does this alternative [50 pits per year] present a meaningfully different alternative, in terms of environmental impacts, from the base case of 50-125 weapons per year?”

Response: *Sections 2.1.6, 2.3.3, 2.3.3.1, 2.3.3.2, and 2.3.3.3 of Volume I of the SPEIS address issues associated with the production rates used for components and weapons. These sections explain planning assumptions that were considered to size the complex for the purpose of estimating the environmental impacts of operating at the production levels defined. As the range of planning assumptions for production rates gets smaller and smaller, so would some environmental impacts. In regard to the comment about nuclear component production compared to nuclear weapon production, production planning assumptions for nuclear components assume that they are produced to enter the stockpile via weapon assembly/disassembly operations at the Pantex Plant, the*

only location currently assembling weapons for the stockpile. See comment-response 12.0 for related discussion.

2.K.17

A commentor addressed concerns regarding the discussion on pit reuse from page 2-13 of the Draft SPEIS. Please explain why it is plausible to believe that a recycled pit could undergo undetected "undesirable changes" that would be sufficient to cause it to "fail." Please define "fail." What is meant by "intrinsic" safety and security features, and how do these differ from other "safety and security features?" What "new external features" of reused pits are being referenced here?

Response: *A detailed discussion of potential pit failure mechanisms or weapons safety and security features cannot be provided in an unclassified document. However, pit failure would prevent a weapon from producing a militarily effective yield. The Pit Lifetime study (JASON 2006) describes only one mechanism by which pits might fail and the conclusions of that study are often incorrectly generalized as relating to a singular concern about pit aging.*

Intrinsic safety and security features constitute component features of the weapon itself and how it will respond to certain stimuli. An example of an intrinsic feature could be where external features of a pit permit the use of insensitive high explosives (IHE) instead of conventional HE, permissive action links, coded switches, or the addition of fire resistant capability to improve the margin of safety in accident environments. This is only one aspect of a safety or security system. For example, the security system includes guns, guards and gates and how these external features respond to an attack. See also comment-response 5.C.1 for related discussion.

2.K.18

Commenting on NNSA's general approach in this SPEIS, as described on page 2-16 of the Draft SPEIS, one commentor stated: "Please explain why this cookie-cutter building block approach results in a meaningful comparison of complex-wide consolidation alternatives with greater or lesser degrees of environmental impacts? The plethora of acronyms and nested "alternatives-within-alternatives" make the analysis virtually incomprehensible, even to experienced analysts of the nuclear weapons complex. Out of the dozens of permutations generated, how many represent plausible candidates for implementation, and which of these are to be preferred based on a comparison of their environmental impacts? The 1996 SSM PEIS did not include any proposed actions to restructure the laboratory technical base other than adding new facilities for enhanced experimental capability. That PEIS concluded, 'The continued vitality of all three NNSA national security laboratories will be essential in addressing the challenges of maintaining a safe and reliable nuclear weapons stockpile without nuclear testing.' This statement leaves the false impression that 'restructuring the laboratory technical base' would have necessarily jeopardized the 'continuing vitality' of NNSA's national security

laboratories, and it is inconsistent with the R&D restructuring actions NNSA now proposes in this SPEIS. In fact, many of these actions were first proposed by DOE stakeholders contesting the conclusions of the 1996 SSM PEIS.

It appears NNSA has wasted billions of extra dollars getting to a place it could have been 12 years ago.”

Response: *The planning assumptions for production capacity and the technical processes by which components or weapons are produced are not site dependent. So the environmental impacts of normal operations do not significantly differentiate among sites. However, many other environmental consequences are different among the sites, such as the need for new construction or the impact of facility accidents on the public. The approach taken is a fair way to address the reasonable alternatives for consolidation of nuclear component production and weapon assembly/disassembly functions. It would be inappropriate to exclude one of these existing Category I/II special nuclear material sites without analysis. NNSA has endeavored to make the very complex matters in the SPEIS understandable and has made many changes in the SPEIS to eliminate confusion, including eliminating unnecessary acronym use and improving the organizational structure of the alternative analysis.*

The fact that NNSA is considering consolidation of R&D facilities now is not evidence that this decision would have been wise 12 years ago in the early stages of SSP development. Further, even if one now makes the judgment that it would have been wise then, hindsight is not foresight.

2.K.19

A commentator questioned NNSA’s statement on page 2-21 of the Summary that the Reliable Replacement Warhead (RRW) would have no effect on the proposed actions in this SPEIS and that the analysis would bound the impacts if the President and the Congress were to direct NNSA to produce the RRW, stating: “How is this possible, given that production of RRWs would presumably involve the fabrication of new nuclear components, generating nuclear waste streams that would not be characteristic of alternatives that rely on pit reuse, or on current Life Extension Programs? Because the environmental impacts are based on the maintenance of the legacy weapons that are currently in the stockpile, a conservative estimate of the environmental impacts is provided by this SPEIS. It does not seem credible that the environmental impacts of maintaining a (potentially quite small and unused) ‘capacity’ for pit and CSA production could bound the environmental impacts of *actually producing* hundreds or thousands of RRW weapons with newly fabricated nuclear components?”

Response: *The analyses in the SPEIS are based on the assumption that the production facilities in the transformed nuclear weapons complex would make those components that may be required, using the existing stockpile of weapons as the base case. If other, new-design weapons were developed, NNSA believes*

that the production of those components would not produce environmental impacts substantially greater or different than those identified for maintaining the existing stockpile. NNSA has analyzed the impacts of the maximum production rates that would occur under each alternative, recognizing that actual production rates would depend on national security requirements. See Section 2.5 of Volume I of the SPEIS for more information on the RRW.

2.K.20

A commentor stated that with respect to Table 3.2.8-1 - Current Major Mission at Savannah River Site: This Table identifies NNSA's Office of Defense Nuclear Non-proliferation as the 'sponsor' of SNM disposition facilities at SRS. Commentor asks what role, if any, does DOE's Office of Nuclear Energy play in funding overseeing the MOX facility project? Is this no longer an NNSA/NP program?

Response: *The Consolidated Appropriations Act, 2008 (Pub. L. 110-161), directed that the Pit Disassembly and Conversion Facility be transferred from the NNSA Office of Defense Nuclear Non-proliferation to the NNSA Office of Defense Programs. That transfer has been implemented. The Act also directed that the Mixed Oxide Fuel Fabrication Facility be transferred from NNSA's Office of Defense Nuclear Non-proliferation to DOE's Office of Nuclear Energy. As of August 1, 2008, that transfer has not occurred and the facility is being managed by the NNSA Office of Defense Nuclear Non-proliferation pursuant to an arrangement with the DOE Office of Nuclear Energy. Table 3.2.8-1 has been revised to identify NNSA as currently managing these two projects at SRS at this time.*

2.K.21

Addressing NNSA's statement that were a Consolidated Plutonium Center constructed at SRS, the Pit Disassembly and Conversion Facility (PDCF) could be modified in the future to "convert plutonium to a form suitable for producing new pits" on page 3-23 of the Draft SPEIS, a commentor presented the following questions:

- Please describe why it would be politically acceptable and consistent with our *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) obligations to use facilities intended for 'irreversible' nuclear weapons material disposition to produce new plutonium pits for new U.S. nuclear weapons?
- How does NNSA think this might appear to the rest of the world?
- Is the PDCF being proposed for construction pursuant to the analysis in this SPEIS? If so, why are this facility and its environmental impacts not described in greater detail, and analyzed at alternative locations, such as Pantex?
- Does this SPEIS analysis assume that this facility will only be located at SRS? What is the current status of NEPA coverage for this facility?

- Is the analysis in this SPEIS based on the assumption that it makes more sense to ship intact pits from Pantex to SRS rather than cans of plutonium oxide?

Response: *The Pit Disassembly and Conversion Facility (PDCF) is being designed for the sole purpose of converting plutonium pits to oxide form to provide feed for the Mixed Oxide Fuel Fabrication Facility (MFFF, or MOX) to further the United States' non-proliferation goals and meet treaty obligations. However, faced with increasing budgetary pressure, the Congress has repeatedly urged NNSA to make the plutonium disposition mission and the stockpile support mission more cost efficient. In response, NNSA is examining multiple uses for the disposition facilities and multiple or modified uses for existing facilities throughout the DOE complex. No decision has been made with regard to altering the current mission of the Pit Disassembly and Conversion Facility, or modifying the facility to accomplish other missions when the current mission is complete.*

The PDCF is not being proposed for construction pursuant to the analysis in the SPEIS. DOE evaluated the impacts of construction and operation of the PDCF at four locations (the Hanford Site, the Idaho National Laboratory, the Pantex Plant, and the SRS) in the Surplus Plutonium Disposition EIS (DOE/EIS-0283, November 1999 [DOE 1999b]). In a subsequent Record of Decision, DOE announced that the PDCF (as well as the MFFF and an immobilization facility) would be constructed at the SRS (65 FR 1608, January 11, 2000). Therefore, the analysis in this SPEIS is based on the assumption that the PDCF will be built and operated at the SRS and that surplus pits will eventually be transported to and processed in that facility. As a result of advances in the facility design and other changes in the plutonium disposition program, including the cancellation in 2002 of the immobilization program, DOE is currently preparing a Surplus Plutonium Disposition Supplemental EIS..

In September, 2007 DOE prepared a Supplement Analysis and issued an Amended Record of Decision (72 FR 51807, September 11, 2007) for the consolidated storage of surplus, non-pit plutonium at the SRS. Transfer of this material from Hanford, the Los Alamos National Laboratory, and the Lawrence Livermore National Laboratory is currently underway. See also comment-response 5.N.2 for a further discussion of pit storage and comment-responses 1.F and 1.J for additional information on the NPT and proliferation issues.

2.K.22

A commentor addressed the discussion of the 50/80 Alternative on page 3-37 of the Draft SPEIS, as follows:

- What is the time horizon (period evaluated) in this SPEIS?
- What are these 'current requirements' that LANL's interim small-scale pit production activities is currently meeting?

- How many W88 surveillance pits need to be accumulated before these activities could be ‘disrupted’ without harming the national security?
- Assuming the agency's Preferred 50/80 Alternative is selected, it is not clear what this pit production capacity would actually be used for, in the event that production of new RRW pits is not approved by the Congress?
- What pit production activities are proposed for this facility in the absence of an approved RRW production requirement?
- If the goal is to maintain a pit production capability by maintaining a cadre of skilled personnel who can build pits when called upon to do so, what is the minimal number of pits per year - and minimal waste stream - that would satisfy this training requirement? This analysis is unacceptably vague given that this is the agency's Preferred Alternative.
- Will the 50/80 Alternative require the expansion of the CMRR facility, or not? What modifications to existing facilities at TA-55 will be required to accommodate additional workers employed in pit manufacturing?
- Absent a requirement to produce RRW pits, what will these workers do?
- Table 3.4.1-9 on page 3-38 shows a figure for total employment under the ‘Los Alamos 50/80 Alternative Annual Operating Requirements’ of 680 workers. What number of pits/yr does this represent - 50 or 80?
- Why does it require this huge number of workers for such a relatively small output?
- How many workers would it require to produce 5 or 10 pits per year in this same facility?”

Response: *In general, programmatic NEPA documents seek to analyze the environmental effects of proposed actions for a particular program for the time period in which the impacts would occur. That is the case for the SPEIS, and was also the case for the 1996 SSM PEIS. Many programmatic decisions, e.g., a decision to construct a new plutonium or uranium facility, that NNSA might make in the next decade could take as long as 20 years to implement. Because of the long lead times of programmatic activities involving nuclear weapons and facilities, a longer time period is evaluated in the SPEIS in order to provide perspective to the decision makers. The interim small-scale pit production program has several major program objectives: to produce replacement pits for pits used in destructive surveillance testing, to maintain production competence for pits, to provide a small capacity to meet unforeseen production requirements, and to serve as a test bed for new production and process technologies that might be used in a new plutonium facility. The LANL facility is today capable of meeting all these major objectives. The W88 program objectives are expected to be met within the next few years. Other pit types could be produced thereafter or NNSA could switch to a maintenance mode or place the facility in a standby mode, as appropriate. Should work be “disrupted” for the other program objectives, the longer the disruption the*

greater the risk that important objectives could not be met and critical competencies could be lost.

To maintain capabilities for meeting future nuclear weapons requirements, (e.g., production of additional quantities of legacy plutonium pits to remedy problems found in the surveillance program or production of new design pits such as those required for the RRW), NNSA has concluded that the small interim production capacity currently at LANL may not be sufficient. Because of the 10-15 year lead time in establishing a larger pit production capacity, NNSA does not believe it is prudent or possible to wait until all uncertainties about future production requirements are resolved before making decisions about a larger capacity facility. NNSA cannot predict today with certainty how a larger capacity would be used. It could be used to either make or modify legacy stockpile pits because of life-limiting problems in the current stockpile, or it could be used to produce new design pits for an RRW. It is also possible that there would be extended time periods where a larger capacity would be maintained as a program capability without full production.

Retaining overall pit production competence is more than a matter of producing a certain quantity of pits each year. There are multiple complex technologies required for the production of plutonium pits. Competency must be maintained in each technology. Competence is measured in people (hands-on production workers and process engineers) and equipment (with associated maintenance and safety staff). It is not possible to maintain competency without exercising the essential elements of each process. Numerous studies and demonstrations are required to demonstrate that competency in individual process technologies is being maintained. The ultimate demonstration of success is the actual production of a complete pit. Over the past few years, LANL has been able to demonstrate overall competence through the production and assembly of pits at rates as high as 6-10 per year. An extended production outage is not desired because processes must be totally re-qualified if not exercised. For a larger production facility, capability maintenance could involve about one pit per week (thus, the 50 pit nominal capacity of the SPEIS capability-based capacity alternative). The waste streams associated with these levels of production are covered in the SPEIS in Section 5.1.14 in Volume II.

The CMRR facility is intended to support all of the programs at TA-55 as well as to provide space for material and programs from the LLNL Superblock facility. The size of the CMRR-NF would be established according to the entire set of program requirements during the final design phase. The 50/80 alternative for pit manufacturing is only one of the possible requirements and it alone would not determine whether additional space is required. In the Draft SPEIS, an additional 9,000 square feet were assessed as an alternative that would support consolidation of plutonium operations to LANL from LLNL, provide analytical chemistry support for increased production, and ensure sufficient nuclear space for other uses that might arise. Subsequent to this

assessment, NNSA determined that the 9,000 additional square feet would not be necessary to support the planned consolidation of plutonium activities and the increase in pit production capacity assumed for the Preferred Alternative. Therefore, the size of the CMRR-NF in the preferred alternative no longer includes this additional space. The Final SPEIS has been revised to reflect this change (See Section 3.4.1.6.2 of Volume I of the SPEIS).

It takes 3-5 years to hire, train, and qualify LANL staff for the various jobs associated with pit production. LANL would hire and train staff for its plutonium facilities based on anticipated production workload over the next 3-5 years. LANL would not hire additional workers for a 50-80 pit production workload unless a demand for that level of production output was to arise. Staffing levels and environmental impacts associated with the 50-80 production levels are analyzed in the SPEIS in order to show the maximum expected impact of full operations. In the absence of 50/80 production requirements, the plutonium workers would be trained and certified on manufacturing processes and execute these processes as needed to retain personnel and process qualification.

Table 3.4.1-9 contains the operating requirements for producing 80 pits per year. The number of personnel is determined by the amount of processing required to produce pits from raw material to finished product and the large number of support personnel required to maintain safe, secure operations. It takes fewer personnel to produce 5 to 10 pits per year in the same facility. This is analogous to a “fixed” and “variable” cost model. A “fixed” personnel base is necessary to produce any quantity of pits. As the number of pits produced increases, the variable number of personnel to staff additional equipment grows. The pit manufacturing program employed about 500 personnel during 2007 to produce about 10 pits in facilities with a relatively small amount of equipment.

2.K.23

A commentor stated that with respect to page 3-66 (Section 3.6.2, Further Stockpile Reductions): “The interesting but brief discussion in this section of the Draft SPEIS raises far more questions than it answers. NNSA acknowledges that it has based its analysis on ‘current national policy’ regarding stockpile size (1,700-2,200 operationally deployed ‘strategic nuclear warheads’). NNSA does not reveal the size of the current or projected ‘non-strategic’ and ‘war reserve’ stockpiles that its current SPEIS analysis is designed to protect. NNSA should disclose these numbers, so that decision makers across the government, members of the Congress, and the general public can judge for themselves whether these stockpile levels represent an objectively reasonable boundary for reasonably foreseeable changes to the stockpile until the year 2030. We see no legal or other valid reason that justifies NNSA's refusal to consider in detail in this SPEIS just such stockpile reduction and complex consolidation scenarios that go beyond ‘current national policy’ - after all, a central purpose of NEPA analysis is to force agencies to consider all ‘reasonably foreseeable impacts’ rather than merely the ones

suggested or acknowledged by ‘current policy.’ By including this brief discussion, NNSA has conceded in principle that there exist complex consolidation alternatives that would have lesser total, connected and cumulative environmental impacts than those of the ‘Capability Based Alternative,’ which constitutes the floor of the present analysis based on a presumption of facility throughputs sufficient to support production of about 50 weapons per year. It also has conceded that the agency has ‘current thinking’ on how the Complex could be optimally reconfigured to support a smaller stockpile and it even provides a sketch of one such possible configuration. Under NEPA, NNSA is obligated to share its thinking about such reasonable alternatives with the public, since it can no longer argue that they are not ‘reasonably foreseeable’ while the agency engages in ‘current thinking’ about them.”

Response: *Certain information concerning the total number of nuclear weapons in the U.S. stockpile has always been classified. All other nuclear-capable nations, except France, have also maintained this position. Decision makers including Members of the Congress have access to this classified information. It is the capacity requirements, not the overall size of the stockpile that determines waste generation and other environmental factors addressed by NEPA. NNSA has evaluated significantly smaller capacity alternatives, the capability-based alternatives, with significantly smaller required production capacities to allow for analysis of smaller sized nuclear weapons stockpiles. NNSA does not believe that the classified nature of the total size of the U.S. nuclear stockpile affects the analysis or outcome of its SPEIS analysis.*

NNSA added an alternative that would not meet current requirements and would result in no net additions to the stockpile (see comment-response 7.O). NNSA has considered stockpile levels and associated production capacities that go beyond current national policy. The capability-based alternatives were developed for that purpose. NNSA has not “shared its thinking” about scenarios that would result in denuclearization because it does not consider those alternatives to be reasonable at this time. NNSA has analyzed capability-based alternatives that reflect large reductions in production capacity and total stockpile levels. These capability-based alternatives do not support current national security requirements, and may not provide sufficient capacity to support stockpile levels which could come about after further reviews and international agreements over the coming decades. NNSA does not believe that additional alternatives that “do not meet national policy requirements” are reasonable at this time and would not provide useful information to decision makers.

2.K.24

Regarding the statement on page S-1 of the Draft SPEIS that NNSA proposes to further consolidate operations, which could result in the relocation of activities among sites, one commentor stated that: “The SPEIS should explain here why NNSA has limited its consideration of ‘consolidating operations’ to

‘relocation of activities among sites,’ rather than excluding from the analysis consolidation options that could result in the elimination, closure, conversion, or transfer (to other beneficial uses) of existing weapons complex sites. Such an approach would appear at the outset to exclude the options with potentially the greatest environmental benefits, which is a poor way to begin a NEPA analysis.”

Response: *The language quoted from the SPEIS correctly describes a portion of the process used to identify the proposed action and reasonable alternatives. Complex Transformation would result in a smaller, more responsive nuclear weapons complex that operates in a more cost effective, safe and secure manner. The purpose of the proposed action is not to achieve the maximum possible closure of sites or to convert those sites to other beneficial uses. To the extent that alternatives would result in closure of sites, as is possible for a number of sites including Y-12 and Pantex, decommissioning and decontamination of those sites are discussed in the SPEIS. See, for example, the CNPC alternative described in section 3.1.1 of Volume I of the SPEIS. Under this alternative, all nuclear production sites other than the one selected would close.*

**2.K.25
and
2.K.26**

A commentor stated that the Draft SPEIS failed to analyze reasonable alternatives and to analyze the alternatives it did consider in sufficient detail. The commentor went on to state: “Where, as here, the purpose and need for the proposed action is not, by its own terms, tied to a specific parcel of land, the range of alternatives that must be evaluated is broadened. Given the expansive purpose and need statement in the Draft SPEIS, it is unreasonable for NNSA to neglect consideration of other alternatives outside the current nuclear weapons complex. NNSA does not appear to have evaluated truly consolidating the nuclear weapons complex, which would mean closing down a number of sites.”

Response: *The purpose and need statement, while expansive, indicates that the need is to create a smaller, more efficient (cost effective) and responsive nuclear weapons complex than exists today. With the exception of Flight Testing Activities, no site outside of the current nuclear weapons complex is being considered as an alternative for the consolidation or relocation of nuclear weapons activities. This is largely because any site not currently in the complex would require substantial investment in infrastructure and human resources. These investments would include safeguards and security, utilities, and waste management activities. From a human resources standpoint, each site requires a cadre of highly trained workers who are familiar with the materials and processes needed for the nuclear weapons program. This support is currently available at each of the complex sites and would need to be recreated at any new site.*

The SPEIS presents the proposed actions and a range of alternatives that would transform the nuclear weapons complex and would give it the potential

to support a number of stockpile sizes. The alternatives described in Chapter 3 constitute a range of what NNSA believes encompasses all reasonably foreseeable stockpile sizes. As long as this nation has nuclear weapons, the nuclear weapons complex must ensure their safety, security and reliability. This necessarily involves the capability to manufacture or acquire any part that may be required to maintain the stockpile.

2.K.27

The following comments were received regarding terminology used in the SPEIS:

- NNSA’s proposal is disingenuous and deceitful and hides the true meaning of the actions by using terms such as “transformation,” “pits,” “best business practice,” centers of excellence, etc; and
- The SPEIS uses terms that camouflage the true meaning of NNSA’s actions. NNSA used “Animal Farm” terminology in preparing the SPEIS.

Response: *NNSA prepared the SPEIS in response to the requirements of NEPA and DOE and CEQ regulations. NNSA made a good faith effort to make the discussions and analyses readable and understandable. NNSA made additional changes in the Final SPEIS to make the SPEIS more comprehensible. Some of the terms the commentor refers to are terms in common usage in the English language. To further improve its understandability, NNSA provided a glossary in the SPEIS (Chapter 13 of Volume II) that defines important terms. Technical terms such as “pits” are defined and explained in the SPEIS. See, for example, the description of “pit” in the glossary.*

2.K.28

A commentor stated that the Draft SPEIS makes the incorrect legal assumption that the *Atomic Energy Act* (AEA) and the Nuclear Posture Review essentially compel NNSA to proceed with continuing the "core competencies to design, manufacture, and maintain nuclear weapons."

Response: *NNSA is authorized to design and manufacture nuclear weapons under Section 91a (2) of the Atomic Energy Act of 1954, (42 USC §2121a (2)) as directed by the President. Such direction is provided annually. As long as this nation has nuclear weapons, it requires a nuclear weapons complex that can respond to the President’s direction. NNSA is also required to make an annual stockpile certification that the stockpile is safe, secure and reliable. In the judgment of NNSA, it must possess the “core competencies” to meet these requirements. The SPEIS examines a range of alternatives that could be used to support a range of weapons stockpiles that are reasonably foreseeable including several that represent a substantial reduction from those levels contemplated by the Moscow Treaty. See comment-responses 1.C and 2.K.11 for related discussion.*

2.K.29 Regarding the text on page 2-10 which stated that "the ability to successfully meet national security requirements on schedule and react to new developments," a commentor asked what NNSA meant by "react to new developments?"

Response: *In this context, "new developments" means changes in United States national policies that result in revision of the requirements in the NWSP and PDDs. It also means the ability to respond to any issues identified by the weapons surveillance program.*

3.0 PURPOSE AND NEED

3.A and 3.C GENERAL

The following comments were received relating generally to the purpose and need:

- The SPEIS inadequately justifies the purpose and need for complex transformation;
- The entire proposal is premature and skews consideration of all reasonable alternatives;
- The SPEIS does not adequately define the purpose and need for NNSA's current Complex Transformation proposal;
- The United States has too many nuclear weapons and nuclear weapons are not needed;
- Modernization of the nuclear weapons complex is not needed;
- The United States should pursue peace;
- Many United States former policy makers, such as George Schultz, William Perry, Colin Powell, Henry Kissinger, and Sam Nunn, have recommend that nuclear weapons be abolished;
- Nuclear weapons are immoral and will lead to extinction of mankind and destruction of the world;
- Opposition to nuclear weapons was received based on grounds related to religion, economics, policy, or national security;
- The majority of Americans are against nuclear weapons;
- The Congress has not provided funding for Complex Transformation, but NNSA is proceeding with the program anyway;
- The true purpose and need ought to be how to achieve peace and not the construction of a new bomb manufacturing complex;
- NNSA should consider site consolidation; the lack of consideration of site consolidation pervades the entire proposal, both on the production and R&D sides;
- NNSA should consider it reasonable to propose closure of one or more of NNSA's national laboratories;

- The SPEIS does not consider physical consolidation of sites versus programmatic consolidation and therefore evades the Congressional direction; and
- The Complex Transformation must be to change the mission from "new nuclear weapons for national security" to research and development across the spectrum of energy resources and especially renewable energy resources, which would provide real national security.

Response: *The purpose and need for the continued transformation of the complex is described in Chapter 2 of the SPEIS. NNSA's proposed actions and alternatives are described in Chapter 3 of the SPEIS. The SPEIS examines a range of alternatives that could support a range of nuclear weapons stockpiles including several that represent a substantial reduction from those nuclear weapons contemplated by the Moscow Treaty. Consolidation, simply for the purpose of reducing the number of sites in the nuclear weapons complex, is not considered a reasonable alternative for the proposed actions. The alternatives address consolidation for the purposes of making the nuclear weapons complex more responsive and cost efficient. In some instances, consolidation could involve physical consolidation as is the case for the Consolidated Nuclear Production Center and for SNM consolidation. NNSA's national laboratories provide unique programmatic capabilities, including weapons design work performed at both LLNL and LANL. Having two competent design teams available to provide independent peer review of each other's work gives NNSA the necessary assurance for its annual stockpile certification, which is necessary if the United States is to avoid underground nuclear testing.*

NEPA and the SPEIS are not the appropriate forums for a debate on whether this nation should possess nuclear weapons. Decisions on whether it will, and the type and number of those weapons if it does, are decisions made by the President in the form of PDDs (which are classified) and the Congress. As long as this nation has nuclear weapons, a Complex must exist to ensure their safety, security and reliability. That complex is the nuclear weapons complex that NNSA is transforming to reflect current realities. See comment-response 3.A.1 for related discussion.

The morality of nuclear weapons and the efficacy of this nation's national security policies are beyond the scope of this SPEIS.

The implementation of any decisions announced in a ROD is subject to availability of funds appropriated by the Congress.

3.A.1

A commentor noted that there is no discussion of whether the weapons facilities and personnel could change their mission to renewable energy, environmental cleanup, non-proliferation, and other necessary programs and what the impacts would be, as is required by NEPA.

Response: *The NNSA Act (Title XXXII of the National Defense Authorization Act for Fiscal Year 2000, Public Law 106-65) specifies the agency's national security missions:*

- *To enhance United States national security through the military application of nuclear energy;*
- *To maintain and enhance the safety, reliability, and performance of the United States nuclear weapons stockpile, including the ability to design, produce, and test, in order to meet national security requirements;*
- *To provide the United States Navy with safe, militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of those plants;*
- *To promote international nuclear safety and non-proliferation;*
- *To reduce global danger from weapons of mass destruction; and*
- *To support United States leadership in science and technology.*

Although NNSA currently conducts or supports work in all of the areas mentioned in the comment, it would be unreasonable for NNSA to consider abdicating its primary mission absent Congressional direction. Therefore, alternatives that exclude the agency's national security missions are not evaluated in this SPEIS. See comment-response 3.A for related discussion.

3.B - 3.D NOT USED

3.E STOCKPILE QUESTIONS – GENERAL

3.E.1 A commentor requested a discussion of the impacts of moving Gas Transfer System and Tritium R&D from LANL to maintaining the reliability of the stockpile.

Response: *Section 3.1.2 of Volume 1 of the SPEIS discusses the process that NNSA used to identify reasonable alternatives for restructuring R&D and testing facilities. For tritium R&D activities, NNSA commissioned an Integrated Project Team (IPT) to evaluate these activities and determine whether there were alternatives that would improve operating efficiencies by consolidating, relocating, or eliminating facilities and programs. The IPT determined that consolidating activities at either SRS or LANL would be reasonable (Section 3.9). NNSA presents the environmental impacts of reasonable alternatives related to tritium R&D (see Section 5.14). One of the alternatives would consolidate tritium R&D activities from LANL at SRS (Section 5.14.1 of Volume II of the SPEIS). NNSA does not believe any of the alternatives for restructuring R&D and testing would adversely affect the reliability of the stockpile. See comment-response 6.B for related discussion.*

4.0 PROGRAMMATIC NO ACTION ALTERNATIVE

4.A The following comments were received regarding the No Action Alternative:

- The No Action Alternative in the SPEIS is a status-quo alternative and not a true no-action alternative. A true No Action Alternative would result in a complex that built no nuclear weapons and did not maintain or extend the life of the existing stockpile;
- The Complex should be shut down and decontaminated (cleaned-up);
- The No Action Alternative should include disarmament and dismantlement;
- The Complex Transformation proposal fails to consider the supercomputers at the nation's weapons labs;
- The EIS makes little mention of the new facilities that are finally coming online or approaching initial operating capability: the National Ignition Facility is scheduled to finish construction in the next year, while the Dual-Axis Radiographic Hydrodynamic Test Facility will soon achieve its intended, two-axis design capability. Both of these facilities have long-been described as critical to stockpile stewardship; and
- Documents within the public domain indicate aggregate effects of past actions at LANL are significant as that term is defined in NEPA and must be addressed through a proper cumulative effects analysis. Summarily writing off such past aggregate effects as simply being subsumed in the No Action Alternative does not meet the mandates of NEPA.

Response: *NNSA believes that the SPEIS appropriately addresses the role of existing facilities. They are described as part of the No Action Alternative, in broad terms in Section 3.2 and in more detail in Chapter 4 and again in Appendix A. This approach to the No Action Alternative (i.e., maintaining the status quo) is consistent with guidance issued by the CEQ Forty Most Asked Questions (46 FR 18026, March 23, 1981). The guidance provides that “where ongoing programs, initiated under existing legislation and regulations, will continue, even as new plans are developed, ‘no action’ is ‘no change’ from the current status. Therefore, the ‘no action’ alternative may be thought of in terms of continuing with the present course of action until that action is changed.” The environmental impacts of continuing the existing activities at each of the sites associated with the Complex are described throughout Chapter 5, along with the impacts of the proposed actions. NNSA believes that in this way the SPEIS allows the reader to compare the various proposed alternatives to each other using the No Action Alternative as the reference point. Tables 3.16-1 through 3.16-8 are provided to assist the reader in this regard. Comment-response 7.O discusses a new alternative analyzed in Section 3 of Volume I of the SPEIS that would result in no net additions to the stockpile. The supercomputers at the national laboratories, National Ignition Facility and*

the Dual-Axis Radiographic Hydrodynamic Test Facility are all included in the no action alternative. There are no proposed changes in their status.

4.A.1

The environmental impacts of a resumption of nuclear weapons testing at the Nevada Test Site needs to be evaluated as part of the evaluation of new pit and RRW production and certification. The resumption of testing in other countries, specifically including Russia, China, India, and Pakistan, needs to be evaluated in this context.

Response: *The environmental impacts of underground nuclear testing were addressed in two DOE EISs: Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (DOE 1996b) and Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (DOE 1996d). Resumption of nuclear testing is not evaluated in the SPEIS because that activity is not a part of the Proposed Action and is not a reasonably foreseeable consequence of the selection of any alternative. See comment-response 1.J for related discussion.*

4.A.2

The following comments were received relative to the No Action Alternative for pit production at LANL:

- There are inconsistent and contradictory statements in the Draft SPEIS regarding the No Action Alternative and the 2006 Draft LANL SWEIS;
- On pages 1-13 and 1-14 the Draft SPEIS indicates that the ROD for the 1999 LANL SWEIS, in which plutonium pit production capability at LANL of up to 20 pits per year was sanctioned, represents the No Action alternative. However, in other portions of the document, 50 pits per year is used as the No Action Alternative;
- The document contains a number of contradictory statements about the 2006 LANL Draft SWEIS which appear to assume an outcome for that process that had not yet been determined when the Draft SPEIS was issued and allegedly will not be determined until after this Complex Transformation NEPA process is complete. In numerous places, the document states that, through the 2006 LANL SWEIS, the DOE is evaluating increasing its current capacity to produce up to 20 pits per year at LANL. However, the document also states numerous times that LANL is “*presently reestablishing* an interim pit fabrication capacity that could provide up to 50 pits annually”; and
- Throughout the document, it appears that DOE already considers 50 pits to be the minimum capability in contravention of the NEPA process still underway. The most current Record of Decision on the books for plutonium pit production levels is from the 1999 SWEIS, with an authorized 20 pits per year.

Response: *Commentor is correct that several places in the Draft SPEIS*

erroneously stated or implied that NNSA has already decided to produce 50 pits per year at LANL. NNSA has carefully reviewed the Final SPEIS to ensure that the document consistently states that nominally 20 pits per year is the number of pits that could be produced at LANL under the No Action Alternative, consistent with the ROD for the 1999 LANL SWEIS.

5.0 PROGRAMMATIC ALTERNATIVES

5.A OTHER PROGRAMMATIC ALTERNATIVES

The following comments were received related to other programmatic alternatives:

- Political leaders should take immediate and deliberate steps toward multilateral disarmament, which would involve the DOE with such actions as increased weapons dismantlement;
- Tritium production activities should be included in the SPEIS in order to represent the impacts of the entire nuclear weapons complex;
- The Watts Bar reactors are part of the nuclear weapons complex;
- The laboratories should be used for life-affirming research; one should be dedicated to green energy research; and
- The Preferred Alternative should be to not build a weapons plant.

Response: *Maintenance of a safe and reliable stockpile is not inconsistent with working toward an ultimate goal of eliminating nuclear weapons worldwide in the future. However, denuclearization is not a reasonable alternative for this SPEIS because it is not feasible based on current national security policy. See comment-response 1.F for additional information related to disarmament and comment-response 1.C for related discussion.*

In response to public comments, NNSA added a summary of the environmental impacts of producing tritium in TVA reactors (see Section 5.19 of Volume II of the SPEIS). NNSA also added a No Net Production Alternative/Capability-Based Alternative (see comment-response 7.O). The Complex Transformation SPEIS includes alternatives that would result in construction of new weapons production facilities, as described in Chapter 3 of Volume I of this SPEIS.

For information regarding research conducted at the National Laboratories, see response to comment 5.H.1.

5.B DEVELOPMENT OF PROGRAMMATIC ALTERNATIVES

The following comments were received regarding the development of programmatic alternatives:

- NNSA should create a new planning process and environmental review for a new Programmatic Alternative to stop nuclear weapons research and production. The No Action Alternative of disarmament should be

considered;

- Support was made for any alternative that consolidates the complex to be more efficient and generate less waste;
- The need for weapons design activities will shift and some will be needed to be maintained, while others will be reduced, i.e., plutonium operations; and
- Uranium operations would be located at Y-12, while weapons assembly operations would cease and resources would transition to disassembly and the need for HE and tritium production would no longer exist.

Response: *NNSA notes support for alternatives that would make the complex more efficient and generate less waste. NNSA has added a No Net Production/Capability-Based Alternative (see Section 3.6.2 of Volume I) that would provide significantly less capability than the Capability-Based Alternative. However, the foundation that NNSA must use to define its programmatic requirements is a combination of the current PDDs and Nuclear Weapons Stockpile Plans which establish the current stockpile weapon types and numbers; Congressional direction contained in authorization and appropriation acts; as well as the judgment of NNSA in consultation with the DoD and experts within NNSA's national laboratories. Using this information, NNSA makes reasonable assumptions as to the configuration and capacity for the nuclear weapons complex for approximately the next decade or so. NNSA has no basis to assume that nuclear weapons will not be a part of the nation's defense over the time period covered in this SPEIS. The range of alternatives analyzed in this SPEIS covers the range that NNSA believes could reasonably evolve from any changes to national policy with regard to the size, number and design of nuclear weapons in the foreseeable future. This SPEIS includes alternatives to maintain uranium operations at Y-12.*

5.C

DISTRIBUTED CENTERS OF EXCELLENCE

The following comments were received relative to the Distributed Centers of Excellence Alternative:

- Support for the Distributed Centers of Excellence at Pantex and Y-12;
- Support for the Uranium Center of Excellence and a Uranium Processing Facility at Y-12;
- Support for a Center of Excellence at LLNL; and
- Distributed Centers of Excellence are not needed because the current arsenal is not aging in light of the study certifying that the current arsenal has a pit lifetime of between 85 and 100 years.

Response: *NNSA notes both the general support for as well as opposition to various alternatives described in the SPEIS and appreciates the time and effort taken to participate in the NEPA process. With regard to the comment*

concerning the need for pit production capacity, please see comment-response 5.C.1 for additional information. Please see comment-response 5.C.2 for more information on uranium operations at Y-12. See comment-response section 10 for related discussion of particular sites and comment-response sections 15 for general comments in support of complex transformation and 16 for general comments opposing complex transformation.

5.C.1

The following comments were received relative to pit production:

- New pits are not needed;
- The JASON study indicates that pits may have lifetimes as long as 100 years. There are more than enough pits at Pantex to satisfy any requirements;
- Senior experts, including prominent members of JASON, have argued for years that the easiest way to ensure increased reliability was to add or more frequently replenish the weapons with tritium (a radioactive gas used to "boost" nuclear weapons), which is a routine operation. The SPEIS completely omits this reliability enhancement alternative;
- Pits are only needed for new weapons, such as the RRW;
- The only reason more pits are needed is to build weapons not now in the stockpile;
- There is no need to increase the capacity to produce pits. The current capacity at LANL is all that is needed to produce the few pits required as a result of the stockpile surveillance program;
- There are over 10,000 pits now at Pantex and those pits could be expected to last a long time (75-100 years);
- Expanded production should be the preferred alternative;
- LANL's currently sanctioned rate of 20 pits per year is unnecessary, expensive, environmentally risky, and provocative when we tell other countries they can't have nuclear weapons; and
- There are technical issues such as the proportion of deuterium and lithium, or spoilage, with the pit which required disassembly and assembly.

Response: *It is true that the JASON group has in the past advocated the addition of extra tritium gas to weapons as a method to increase overall weapon reliability. Although this approach could possibly help alleviate performance problems for specific aging issues, it does not address all of the potential issues associated with pit aging. In addition, this approach would not contribute to NNSA's goals of improving weapons safety and security. NNSA, for classification reasons, does not divulge the exact nature of changes made to weapons in order to maintain or improve weapon safety or reliability, but the addition of tritium gas is not an all purpose solution.*

It is important to understand that while pits may have extremely long lifetimes

and there may ultimately be no need to produce additional ones, prudence requires that the complex have the capability to produce pits should the need arise. NNSA is not proposing to manufacture any pits unless they are required to meet national security requirements. The need to produce pits could arise due to aging or changes to our existing national security policies that could require pit manufacturing beyond the few pits currently being manufactured for stockpile surveillance. Further, the CMR facility, a facility necessary for the production of pits does not provide and cannot be modified to be a safe, secure and reliable facility for the future.

NNSA has made no decision with regard to the capacity for pit production. That decision will be announced in a ROD based on this SPEIS. No matter what capacity the Complex possesses, actual production rates would be determined based on the requirements of national security. See comment-responses 1.F and 1.J for a discussion of proliferation issues.

5.C.2

The following comments were received regarding the uranium fabrication mission:

- Support for a UPF at Y-12 and continuing the uranium mission at Y-12.
- The SPEIS cannot be used to make a decision siting the UPF at Y-12.
- While the SPEIS may consider locating a UPF at Y-12 as a Preferred Alternative, a decision to site a UPF at Y-12 can only be made based on a site-specific EIS at Y-12.
- The design of modified or new uranium processing facilities should have transparency built in to facilitate international inspections of all stages of uranium operations and eventually international possession of HEU.
- Upgrading existing facilities at Y-12 should be analyzed for suitability for uranium processing as an alternative to UPF.
- The only mission of Y-12 should be disassembly of uranium components and the storage of the HEU until a disposition path is identified, and there is no need to produce nuclear weapons or their components.
- The SPEIS must also consider the reasonable alternative of using the excess capacity of the HEUMF, now under construction at Y-12, to house a version of the UPF.
- Canned sub-assemblies (CSAs) are not needed.
- The SPEIS should specify the "multiple existing EU and other processing facilities" that the UPF would replace.
- What would be the proposed maximum and nominal annual CSA production capacities for the proposed UPF?
- The HEUMF at Y-12 may have excess square footage to allocate to the UPF mission.
- The HEUMF is a very large facility, on the order of 8 acres, and it is

difficult to believe that all that space would be required to store HEU and EU removed from weapons, given ongoing disposition activities involving conversion of inventories to navy fuel and dilution to low enriched uranium for civil reactors. What annual level of CSA and HEU component fabrication operations could be accommodated within the new HEUMF at Y-12 under various assumptions about future storage and uranium disposition requirements, and various projected levels for CSA production?

- If Y-12 activities were conducted at Pantex or LANL, transportation would be reduced and that NNSA should analyze this as a discrete case.
- Where will enriched lithium-deuteride components be stored and/or processed? Could this be in a facility separate from either the HEUMF or the UPF?

Response: *As explained in Section 1.5.2.2. of Volume 1 of the SPEIS, a UPF is analyzed in both the Y-12 SWEIS (currently being prepared) and this SPEIS. NNSA will not make any decisions related to the UPF prior to completion of this SPEIS.*

If pursued, the UPF would consolidate existing enriched uranium processing capabilities from Buildings 9212, 9204-2E, and 9215 at Y-12. The maximum CSA production capacity analyzed in the SPEIS is 125 per year on a single shift and 200 per year on multiple shifts. The detailed rationale for capacity requirements is classified but, in general, is determined based on the future stockpile size and composition and life extension programs. Differences between pit and CSA capacities are based on differences in the expected lifetimes of the components.

The HEUMF has been sized (approximately 110,000 square feet or 2.5 acres) for the storage mission of the facility taking into consideration the ongoing disposition activities involving conversion of inventories to navy fuel and dilution to LEU for civil reactors. The total land area for HEUMF (7 acres) and UPF (8 acres) includes facilities, roads, parking lots, utilities, security features, etc. The HEUMF provides interim and long term storage of Categories I and II HEU. The HEUMF is appropriately sized for the storage mission of the facility based on current and projected HEU inventories including shipments to customers, returns from Pantex and other facilities, dismantlement, etc. Construction of HEUMF has been completed and there is no excess capacity that could be used for enriched uranium processing. The UPF requires approximately 400,000 square feet for the manufacturing mission of the facility. Operations in HEUMF include loading and unloading of secured trailers (SSTs/SGTs), non destructive assay, item tracking and accountability, re-containerization, and internal building transportation. In contrast, operations in UPF include assembly, disassembly, dismantlement, surveillance, casting, machining, inspection, and recovery, etc. to perform

*assigned NNSA missions. Storage space in UPF is limited to in process inventories associated with manufacturing.
Lithium components are processed and stored in other Y-12 facilities. Finished components would be transferred to UPF as needed.*

- 5.C.3** A commentator asked why can't the number of deployed W88s-- estimated in the mid-300's-- be reduced, thereby making spare pits available for annual "stockpile stewardship" analysis.

Response: *The numbers and types of weapons that are deployed in the stockpile are determined by the President in the NWSP. Whether more warheads of a particular type, such as W88s, should be reduced is a decision that can only be made by the President and the Congress.*

- 5.C.4** A commentator noted that it “smacks of speculative grasping at straws to justify 100's of billions of dollars for Complex Transformation” regarding the following statement from the Draft SPEIS, “Should their [pits'] hermetic seal be broken (due to latent manufacturing defects, corrosion, or long term environmental stresses such as temperature and vibration), their reliability could be compromised in a short time. Consequently, judgments about new pit production capabilities and capacities are complex and warrant careful consideration.”

Response: *NNSA acknowledges that decisions regarding new plutonium pit production are complex and that considerable disagreement exists about the appropriate approach for dealing with this complex subject. NNSA is, however, charged with making judgments about production capacity based on the best scientific information and the expected range of future stockpile scenarios. NNSA has implemented long-term scientific and engineering programs to study the effects of plutonium aging on current and future nuclear weapons performance, including studies relating to potential hermetic seal failure. In addition, NNSA has entered into numerous reviews and deliberations with the DoD regarding possible future nuclear weapons stockpile scenarios. NNSA acknowledges that additional reviews and deliberations will occur in the future, e.g., following the Nuclear Posture Reviews and Congressionally-mandated reviews. However, based on current knowledge and the expected range of future possibilities, NNSA has judged that the plutonium pit production capabilities and capacities alternatives considered for the SPEIS are appropriate.*

- 5.C.5** The specific 50/80 Alternative is not mentioned in all of the environmental impact categories.

Response: *NNSA has reviewed the Draft SPEIS and found the 50/80 Alternative addressed for every environmental impact category (resource area): land use, visual impacts, site infrastructure, air quality and noise, water*

resources, geology and soils, biological, cultural and archeological, socioeconomic, environmental justice, health and safety, accidents, and waste management. (See Section 5.1 of the SPEIS) See also comment-response 14 for related discussion of resource issues.

5.C.6

The following comments were received relative to pit production at LANL:

- Given the central importance of the CMRR-NF to NNSA's preferred 50/80 pit production alternative, NNSA must clearly state the facility's ultimate proposed size;
- If the footprint of the CMRR-NF would be over 200,000 ft², the Complex Transformation SPEIS must conduct adequate NEPA analysis for additional square footage over that analyzed in the CMRR EIS;
- NNSA would need to specify whether additional facility-specific NEPA analysis might be necessary;
- NNSA needs to explain the additional 9,000 ft² needed for the CMRR for the preferred 50/80 plutonium pit production alternative; and
- The SPEIS is confusing as to whether an additional 9,000 ft² for CMRR is needed.

Response: *No footprint additions are planned beyond that already analyzed within the CMRR EIS; therefore, because there will be no change to what has already been analyzed, no further facility NEPA analysis is planned. An additional 9,000 square feet was assessed as a means to support consolidation of plutonium operations at LANL from LLNL, provide increased analytical chemistry support for increased pit production capacity, and ensure sufficient nuclear space as a contingency. Subsequent to the issuance of the Draft SPEIS, NNSA has concluded that the 9,000 additional square feet is unnecessary to support the proposed consolidation of plutonium activities and the increase in pit production capacity to 50/80 pits per year as assumed for the Preferred Alternative. Therefore, an addition of 9,000 square feet to the CMRR-NF is not being pursued. The Final SPEIS has been revised to reflect this.*

5.D

CONSOLIDATED NUCLEAR PRODUCTION CENTER

The following comments were received relative to a Consolidated Nuclear Production Center (CNPC):

- Support for the CNPC at Pantex or Y-12;
- Opposition to the CNPC at either Pantex, Y-12, or both; and
- Support for facility consolidation where appropriate.

Response: *NNSA notes the support as well as the opposition for a CNPC at Pantex and Y-12, and the support for consolidation where appropriate. See also comment-response sections 15 and 16 for related discussion.*

5.D.1 A/D/HE CENTER

Comments expressed support for Pantex remaining as the A/D/HE production center. Comments opposed Pantex for remaining as the A/D/HE production center.

Response: *NNSA notes the support as well as the opposition for the A/D/HE mission at Pantex.*

5.D.2 CPC

With regard to the need for pit production capacity, commentors stated that the JASON study showed that pits last almost 100 years.

Response: *With regard to the JASON study, please see comment-response 5.C.1.*

5.D.3 CUC

Comments expressed support for the CNPC and CUC at Y-12 because some facilities are already at the site that could be used. Comments opposed CNPC and CUC at Y-12 or any other site.

Response: *NNSA notes both the support as well as the opposition for a CNPC and a CUC at Y-12, and appreciates the commentors' participation in the SPEIS process.*

5.E ALTERNATIVE FOR A SMALLER CNPC

A commentor stated that DOE did not really evaluate a smaller CNPC or consider viable alternatives for consolidation of the complex.

Response: *The SPEIS evaluates production facility alternatives that would be appropriately sized for the two Capability-Based options, the smallest production capacity options. The SPEIS includes alternatives that could eliminate NNSA missions at two major sites (Y-12 and Pantex), and includes consolidation actions for the research, development, and testing missions at many of the sites. For more information on consideration of consolidation of the Complex, please see comment-responses 2.K.24 through 2.K.26.*

5.F PROGRAMMATIC ALTERNATIVE 3: CAPABILITY-BASED

Some commentors expressed support for the alternative to make the Complex more responsive by reducing and consolidating operations per the Capability-Based Alternative while some opposed the Capability-Based Alternative.

Response: *NNSA notes the support and opposition to NNSA's plans to make the Complex more responsive. Additionally, specific support as well as opposition for the Capability-Based Alternative is noted. More information can*

be found in comment-response 3.A. See also comment-response section 15 for related discussion.

5.G DOWNSIZING-IN-PLACE

Some commentors expressed support for the Downsizing-in-Place Alternative because it exhibits the lowest nuclear warhead production rate while some commentors expressed opposition to the Downsizing-in-Place Alternative. A commentor supports stockpile renovation with the simultaneous retiring of existing weapons.

Response: *NNSA notes the support as well as the opposition for the Downsizing-in-Place Alternative and appreciates the commentors' participation in the SPEIS process. All of the consolidation alternatives consider the potential benefits that could make the Complex more responsive and cost effective by downsizing in place. See also comment-responses 15 and 16 for related discussion.*

5.H ALTERNATIVES DISCUSSED, BUT NOT ANALYZED IN DETAIL

A commentor criticized the lack of detail in the discussion of alternatives, and criticized the production of special nuclear material for weapons (tritium) in civilian power reactors (Watts Bar, Tennessee).

Response: *Please see comment-response 2.0 for a discussion of the NEPA process including the discussion of alternatives. With regard to the comment concerning the production of tritium in civilian power reactors, a new section has been added to the SPEIS (Section 5.19) that discusses tritium production in Tennessee Valley Authority reactors. Also, the environmental impacts of producing tritium in commercial reactors is analyzed in the Programmatic EIS for Tritium Supply and Recycling (DOE/EIS-0161, 1995) and the EIS for Tritium Production in a Commercial Light Water Reactor (DOE/EIS-0288, 1999). Please note that tritium is not special nuclear material and that the United States does not use commercial nuclear reactors to produce special nuclear material.*

5.H.1

A commentor stated that the national weapons laboratories should eliminate the weapons activities they now conduct and pursue other activities beneficial to mankind.

Response: *As discussed in Section 3.15, one of the alternatives considered but eliminated from detailed study was an alternative that would consolidate the three nuclear weapons laboratories (LANL, LLNL, and SNL/NM). The purpose of the continued operation of the national laboratories is to support NNSA's core mission as directed by the Congress and the President, which includes maintaining a safe and reliable nuclear weapon stockpile. A cessation of these*

activities would be counter to national security policy as established by the Congress and the President and would not meet the purpose and need for agency action. For this reason, this alternative was eliminated from detailed study in this SPEIS. The national laboratories do support non-weapons research and development in a wide range of areas. Some of those areas include renewable energy, environmental technology, global climate change, anti-terrorism and non-proliferation, and biological and biomedical research.

5.H.2

The following comments were received regarding a “Curatorship” alternative:

- NNSA failed to propose an alternative that could be described as a "Responsible Curatorship Alternative" that conforms to both the U.S. Constitution and the international *Treaty on the Non-proliferation of Nuclear Weapons* (NPT).
- Curatorship would take a conservative approach to refurbishing warheads. Only if NNSA's surveillance activities could demonstrate compelling evidence that components have degraded, or will soon degrade, and further analysis indicates that such degradation could cause a significant loss of safety or reliability, would NNSA replace the affected parts. The replacements would be remanufactured as closely to their original design as possible, and would extend the life of the warhead without improving its performance.
- The Curatorship option would be accompanied by a shift in the nation's nuclear security policy that would discourage, if not prohibit, improvements to nuclear weapons. Instead of relying on a massive R&D enterprise to improve scientific and technical capabilities, the Curatorship approach relies upon the extensive historical testing and certification activities, which have demonstrated that the existing stockpile is safe and secure.
- Under Curatorship, NNSA would still need skilled engineers and designers, with good judgment, to examine warheads and to determine when components must be replaced.
- NNSA would continue to operate state-of-the-art testing and engineering facilities to examine components. It would retain sufficient scientific and computing capabilities to apply analytical models to questions of weapon safety and reliability. It would make use of evolutionary improvements in computing technology to better appraise problems with weapons systems.
- NNSA would have no need to continue enhancing its understanding of weapons science or to maintain cutting edge research facilities in a wide range of technologies. Under Curatorship, most of NNSA's research and experimentation programs would cease and numerous facilities would be closed.
- NNSA must analyze a Responsible Curatorship Alternative (or the roughly equivalent) that safely maintains the nuclear stockpile while it

awaits eventual dismantlement under the NPT.

- NNSA should consider and analyze how a Responsible Curatorship Alternative or the equivalent would encourage declared nuclear weapons states toward the NPT's mandated goal of nuclear disarmament, and encourage non-signatory nuclear weapons states to join the NPT, thereby significantly enhancing global and national security.
- Under a Curatorship alternative, LLNL could serve as a premier civilian science laboratory.

Response: *The suggested Curatorship Alternative does not meet the purpose and need for the agency action. The requirements that NNSA uses to base or define its programmatic requirements are a combination of the current Nuclear Weapons Stockpile Plan and PDDs, including those issued under the Atomic Energy Act of 1954, which establish the current and projected stockpile weapon types and numbers; the Congressional direction contained in authorization and appropriation acts; as well as the best judgment of NNSA in consultation with the Department of Defense and experts from NNSA's national laboratories. Using this information, NNSA makes reasonable assumptions as to the configuration and capacity for the nuclear weapons complex for the next decade or so. NNSA has no basis to assume that nuclear weapons will not be a part of this nation's defense over the time period covered in this SPEIS.*

The range of alternatives analyzed in this SPEIS covers the range that NNSA believes could reasonably evolve from any changes to national policy with regard to the size, number and design of nuclear weapons in the foreseeable future. In response to public comments, NNSA added an alternative to the SPEIS, a variant of the Capability-Based Alternative, which would provide no net additions to the stockpile. It would only manufacture pits for the stockpile to replace pits otherwise unavailable that are destroyed in the Surveillance Program. While pits may have extremely long lifetimes and there may ultimately be no need to produce additional ones, prudence requires that the Complex have the capability to produce pits should the need arise. NNSA is not proposing to manufacture any pits unless they are required to meet national security requirements. The need to produce pits could arise due to changes to existing national security policies that could require pit manufacturing beyond the few pits manufactured for stockpile surveillance.

5.I

PROCESSING OR HANDLING OF PLUTONIUM

The following comments were received regarding processing or handling of plutonium:

- Support for the removal of plutonium and other SNM from sites;
- There is no reason for SNM and the production of new plutonium pits;
- Consolidating and securing plutonium is a good idea; but NNSA does

- not have to build new nuclear weapons to consolidate and secure;
- Transporting plutonium is an environmental hazard;
- In processing and handling plutonium, NNSA has not historically done an adequate job of protecting the health, safety and the environment;
- NNSA has adequately protected health, safety and environment; and
- NNSA and LANL should create a reporting process with the City of Española regarding environmental impacts from plutonium production and operations at LANL.

Response: *The handling and transportation of nuclear materials including plutonium, enriched uranium and tritium by NNSA is subject to DOE Orders and regulations designed to protect the environment, health and safety. All NNSA's sites possessing plutonium have processes in place to protect the environment and worker health and safety and have robust safeguards and security programs in place to provide protection for that material. With regard to the comment on need for pit production capacity, please see comment-response 5.C.1. With regard to the comment requesting a reporting process with the city of Española, see comment-response 14.D.6 for examples of information provided to the public regarding the impacts resulting from plutonium production, however, the establishment of a new reporting process with the city of Española is outside the scope of the SPEIS. NNSA notes the support for special nuclear material removal and consolidation proposal.*

5.J

PROCESSING OR HANDLING OF URANIUM

The following comments were received regarding processing or handling of uranium:

- Tailings from uranium mining are harmful to health;
- Mining uranium has negative effects;
- Concerns were expressed over uranium handling/transportation operations; and,
- The Navajos at Window Rock have come to the conclusion and stood by each other at the expense of good-paying jobs, no more mining of uranium.

Response: *NNSA notes the comments concerning the tailings resulting from mining uranium and the negative health effects of uranium mining. These matters are beyond the scope of the SPEIS. See comment-response 5.I for a discussion of protection of the environment and worker health and safety in the handling and transportation of enriched uranium.*

5.K

NOT USED

5.L PROCESSING OR HANDLING OF RADIOACTIVE ISOTOPES

Comments were received regarding concern over how well NNSA processes or handles radioactive isotopes, especially tritium.

Response: *See comment-response 5.I for a discussion of the protection of the environment and worker health and safety in the handling and transportation of plutonium. With respect to tritium, NNSA conducts all process and handling of tritium in accordance with all applicable laws and regulations.*

5.M and 5N SNM CONSOLIDATION AND DISPOSAL OF SPECIAL NUCLEAR MATERIAL

Comments were received stating that:

- Concentrating and storing our entire stockpile of SNM in one single geographic location as well as making that location public knowledge is not in the best strategic interests of the Nation; and,
- Commentors expressed concern about disposal of SNM.

Response: *NNSA notes the comment opposing the concentrating and storing of all SNM in one single geographic location (which would occur if a CNPC were implemented). Chapter 3 of Volume I of the SPEIS discusses the alternatives being considered. Only one alternative, the CNPC, would result in all production and storage at one location. NNSA has no basis to classify the location where SNM is stored.*

Disposal of excess SNM is addressed in the Material Disposition Program (See: Storage and Disposition of Weapons-Useable Fissile Materials Programmatic Environmental Impact Statement, DOE/EIS-0229) and is not addressed in this SPEIS.

5.N.1 LLNL

Some commentors expressed opposition to transferring SNM to other sites, including the transfer of LLNL's SNM to other sites. Commentors expressed concern that NNSA should first resolve not to create additional waste.

Response: *The Complex Transformation SPEIS includes alternatives that would reduce the number of sites and locations within sites that store Category I/II SNM. These alternatives seek to improve security and reduce the security costs associated with storage. Specific responses to comments related to Pantex, SNL/NM, and LLNL are contained in comment-responses 5.N.2 through 5.N.6. Waste Management issues are addressed in comment-response 14M.*

5.N.2 The following comments were received regarding SNM issues at Pantex:

- The discussion in the Draft SPEIS on pages 5-404 to 5-409 is entitled "Impacts of Transferring Category I/II SNM from Pantex Zone 4 to Zone 12." However, the discussion does not provide an adequate basis for any decisions about moving the "60 metric tons" of plutonium pits. Another reasonable alternative is to "deform" the pits in some way so that they would not be readily usable in warheads. There are various ways that pits could be modified so that they would no longer be able to be placed into warheads. The SPEIS must analyze such options as alternatives to moving the pits and as security alternatives for the pits. The Draft SPEIS does not consider that alternative or its environmental impacts. Thus, the SPEIS cannot be used as the basis for any decisions about whether or not to move plutonium pits from Zone 4 at Pantex.
- NNSA should revisit and reconsider plutonium immobilization and/or vitrification as part of the plutonium consolidation process.
- Any use of plutonium for nuclear power by utility companies increases the accessibility of nuclear sources to terrorists.
- Is the proposed pit storage facility to be constructed underground? If not, how will the new storage facility address safety and security issues? These concerns have not been addressed.

Response: *The Zone 4 Staging Area, a Material Access Area (MAA), is not in close proximity to the Zone 12 MAA. Weapons and weapon components have to be transported between these areas in approved trailers. Transporting weapons and weapon components through limited and protected areas provide some inherent security risk. Providing a storage consolidation facility in Zone 12 to stage weapons and weapon components would reduce the security risk of transporting these items as they would remain in the same MAA until being shipped off plant site.*

There is also a safety risk associated with staging weapons and weapon components in an area other than the Zone 12 MAA. Additional loading and unloading operations, as well as transporting these items over roads, are required while moving the weapons and weapon components between the Zone 12 MAA and the Zone 4 Staging Area. Reducing the amount of handling would enhance safety over the long term.

The remote location of the current staging area also creates operational inefficiencies. Multiple trips occur each day from Zone 4 Staging Area and Zone 12. Because of the remote location of the Zone 4, activities such as loading, unloading, transporting, and escorting of weapons and weapon SNM components are required between the Zone 4 Staging Area to the Zone 12 MAA. These activities would not need to be performed if the staging facilities were located in the Zone 12 MAA. Loading weapons and components takes several hours. Inclement weather situations can cause production delays when weapons cannot be transported.

Integration of the Storage Consolidation Facility within Zone 12 would allow for reduced operational costs, more efficient use of security forces, increased security, increased safety and facilitate assembly and disassembly of weapons and test units. The facility would also provide a modern design to contemporary nuclear safety standards and configured to better resist the possible threats with the flexibility to respond to possible increases in the potential threats with engineered security features. Additional benefits include reduced operating costs and manufacturing cycle times.

Deforming pits, while making them unusable in weapons, would not reduce either the security risk or costs associated with the storage or transportation of the material. They would remain Category I/II SNM and, therefore, would not be an alternative to transferring material from Zone 4 to Zone 12.

All pits which are not designated for the plutonium Strategic Reserve or retained for other national defense needs are expected to be declared “surplus plutonium.” In the Records of Decision for the Storage and Disposition PEIS (62 FR 3014) and the Surplus Plutonium Disposition EIS (65 FR 1608, January 11, 2000), DOE established a disposition program for surplus plutonium which would make surplus weapons-usable plutonium inaccessible and unattractive for weapons use. The purpose of the program is to ensure that plutonium produced for nuclear weapons and declared excess to national security needs (now and in the future) is never again used for nuclear weapons. Specifically, the Department has decided to disposition 34 metric tons of surplus plutonium. Surplus pits would be transported from Pantex to the Savannah River Site’s Pit Disassembly & Conversion Facility (PDCF). Pits would then be disassembled and the plutonium will be then processed through the MOX facility. DOE currently is preparing the Surplus Plutonium Disposition Supplemental EIS to evaluate alternatives for the disposition of additional surplus plutonium.

5.N.3 NOT USED

5.N.4 One commentor noted NNSA recognizes that consolidating weapons-usable fissile material reduces security costs, and reduces the danger of theft, accident, and radiological exposure. However, while its proposed plans are a step in the right direction, these efforts should be sped up and their scope expanded.

Response: *NNSA has already removed Category I/II Special Nuclear Material (SNM) from Sandia National Laboratories/New Mexico (SNL/NM). Also, NNSA has begun the removal of Category I/II SNM from LLNL, which is to be completed by 2012. NNSA will continue to give this action the high priority requested by the commentor. Safety, security, and logistical issues associated with preparing SNM for shipment; shipping the materials, and storage at the receiving site, however, affect the schedule to implement consolidation plans. Additional information concerning the proposed actions for the consolidation of Category I/II SNM may be found in Section 3.7 of Volume I of the SPEIS.*

5.N.5

The following comments were received regarding SNM issues at SNL/NM:

- Although the SPEIS claims that SNM will be removed from Sandia it is clear that NNSA intends to continue transporting and providing SNM to Sandia for experiments and testing;
- The SPEIS has not described the reasons for and the environmental impacts that will be associated with continued use of SNM for testing and experiments at Sandia; and
- The potential for human exposure and environmental accidents, waste disposal and terrorist activities associated with continued use of SNM at Sandia must be described.

Response: *As discussed in Section 3.7 of Volume I, Category I/II SNM has been removed from SNL/NM. There are no proposals in the SPEIS that would require continuous Category I/II SNM use at SNL/NM. The use of SNM at the Ariel Cable Facility is analyzed in the SNL/NM SWEIS. SNL/NM may continue testing in this facility using SNM in campaign mode as they are today. (See Section 3.3.5.1 of the SNL/NM SWEIS). If use of Category I/II SNM on a continuous basis is proposed in the future for work at SNL/NM, such a proposal could require a project-specific NEPA review.*

5.N.6

The following comments were received regarding SNM issues at LLNL:

- A study of potential storage sites should be prepared. This study should not be limited to sites that are part of the Complex Transformation plan. For, if the plutonium from Livermore Lab were to be simply stored safely and securely at a remote location, that plutonium would not have a role in Complex Transformation.
- It is possible that if the decision regarding moving the LLNL plutonium were made on the grounds of safety and security, a different storage site choice might emerge. For example, the DoD has excess underground secure storage at a large site that is not an NNSA site analyzed in the SPEIS.
- The DoD may have excess secure storage facilities suitable for the job.
- Make the study of potential storage sites as transparent as possible. Bring in independent analysts, community members, affected tribes and other stakeholders.
- Lay out a plan to safely package the plutonium at Livermore Lab. The Defense Nuclear Safety Board has cited Livermore Lab's plutonium facility for storing plutonium in paint cans and food tins.
- Good procedures and a reasonable allocation of time and money will be required to package the plutonium for shipment.
- Ship LLNL SNM it to the selected location in as safe and timely manner as is possible. Allocate sufficient funds to ensure that it is stored safely and securely at the new site. Continue to involve independent analysts,

communities, affected tribes and other stakeholders.”

Response: *Section 3.7 of Volume I of the SPEIS describes NNSA’s objective of removing all Category I/II SNM from LLNL by 2012. As described in Section 3.7, it may be necessary to provide interim storage of this material in order to meet the objective of removing all of the material by 2012. The potential environmental impacts of shipping this material are described in this SPEIS as well as the LLNL SWEIS (DOE 2005a). NNSA is only considering alternative sites that would consolidate Category I/II SNM to NNSA sites that already store Category I/II SNM. The safety and security needed for Category I/II SNM is regulated by the DOE Order System under the Atomic Energy Act and provides a high level of assurance that the material is transported and stored in a safe and secure manner. This system includes personnel security requirements, including, for example, the human reliability program applicable to employees with access to Category I/II SNM, that are not readily transferable to another federal agency or its employees. These requirements are very different than similar requirements for the storage of nuclear weapons that would be in place for the DoD sites referred to by the commentor. The commentor should note that while NNSA is able to allocate some funding on a priority basis, it can only provide funding as provided in appropriations acts. NNSA fully intends to keep stakeholders informed on these matters to the extent possible recognizing that some regulatory elements for the storage of Category I/II SNM are classified. Accordingly NNSA has not studied sites such as those suggested by the commentor.*

5.N.7

A commentor stated that the SPEIS should consider moving all plutonium from LLNL, not just Category I/II plutonium.

Response: *The removal of Category I and II quantities of SNM including plutonium from LLNL reflects a significant reduction in the quantity of plutonium at LLNL and would be a significant accomplishment by 2012. The effort will result in a significant reduction in security costs at LLNL, and supports the mission consolidation focus of Complex Transformation. The ongoing need for the remaining quantity of plutonium will continue to be assessed. Current plans are for LLNL to maintain a capability to conduct R&D on small samples of plutonium and other actinides.*

5.N.8

A commentor stated that the SPEIS should only consider alternatives that move plutonium once from LLNL, not two moves (which would be required if NTS is used as an interim storage option before moving the plutonium to LANL).

Response: *The current plan path for implementation of the proposal to move LLNL’s plutonium would not include interim storage. While the interim storage option remains available, the current plan is that the material would be moved directly to LANL and material in excess of program needs would be*

moved directly to the SRS. NTS has been identified as a possible contingency, in the event shipments to SRS or LANL are halted or delayed. Also, certain programmatic materials could be shipped to LANL or NTS for continued use. Additional NEPA analysis may be required for use of NTS as an interim storage facility for this material.

6.0 PROJECT ALTERNATIVES

A commentor requested that High Explosives R&D continue at TTR. A commentor stated that the alternatives do not include disarmament and that this is not democratic.

Response: *NNSA does not conduct HE R&D at TTR, therefore, it is not considered as an alternative under Complex Transformation. For information regarding disarmament, see comment-response 1.J.*

6.A HIGH EXPLOSIVES R&D

The following comments were received regarding high explosives (HE) R&D:

- Clarify the following statement in the Preferred Alternative Section (Section S.3.17): "LANL would produce HE detonators and conduct contained HE R&D". Does this mean an increase or decrease in HE activity?;
- Sandia National Lab is committed to lead the science and engineering for high explosives research and development; and
- The assembly/disassembly of high explosives should be done at both Pantex and the Nevada Test Site.

Response: *Generally, implementation of the Preferred Alternative would involve no change in terms of the type of HE R&D activities that are planned at LANL. With regard to the amount of work, some types are expected to grow and others to decrease. For example, while NNSA can expect "right sizing" to match its mission needs in the future (which should result in a slight reduction in HE R&D activities), "work for others" is expected to grow. Thus NNSA expects a balance in amount of these activities, and little overall change in activity. Table 3-8 (High Explosives Processing Facilities Capabilities and Activity Levels) and Table 3-9 (High Explosives Testing Facilities Capabilities and Activity Levels) in the Final LANL SWEIS (May, 2008) provide information on the HE R&D activities expected at LANL.*

NNSA notes the comment that Sandia National Laboratories is committed to lead the science and engineering for HE R&D. With respect to conducting assembly/disassembly of HE at both Pantex and the NTS, the SPEIS evaluates the assembly/disassembly mission at each site. A non-consolidation alternative (such as using both sites) would not meet the purpose and need for agency

action to make the Complex smaller and more efficient as described in Chapter 2 of Volume I, and is, therefore, not further analyzed.

6.B TRITIUM R&D

The following comments were received regarding tritium R&D:

- General concern was expressed about the proposed tritium gas transfer R&D (gas transfer occurs during detonation of some nuclear weapons), as well as all aspects of tritium use during nuclear weapons production;
- Tritium research is unnecessary;
- LLNL will keep tritium research and development under the Preferred Alternative;
- Support for tritium R&D consolidation at the SRS;
- Tritium is a particularly dangerous substance because it can cross the placenta and it causes birth defects;
- Two accidents that occurred in 1965 and 1970 released tritium;
- Opposition to moving gas transfer systems from LANL was expressed because the GTS facilities at LANL are modern and functional and it is not cost effective to move;
- The increase in production of neutron generator and tubes and the increased potential for tritium releases for production for the various alternatives to air and water at Sandia; and
- Disagreement was expressed with the fact that the DOE is going to perform more open-air tests or tritium research and development.

Response: *The alternatives related to tritium R&D activities are described in Section 3.9 of Volume I of the SPEIS, and the alternative to move tritium R&D activities from LANL to SRS is described in Section 3.9.2 of Volume I of the SPEIS. The environmental impacts of the alternatives are presented in Section 5.14 of Volume II of the SPEIS. Commentor's opposition to the alternative that would consolidate tritium R&D activities from LANL to SRS is noted. Costs and technical issues will be considered in deciding among alternatives. Currently, no decision has been made regarding the tritium R&D activities.*

NNSA has not identified any new programmatic alternatives that would change tritium-related production activities for SNL/NM in the SPEIS. Therefore, impacts to the air and water at SNL/NM would result from continuing current operations (i.e. the No Action Alternative), which is the basis for the impacts to the existing environment at SNL/NM, as described in Section 4.6 of Volume II of the SPEIS.

6.B.1 The following comments were received regarding tritium activities at LLNL:

- The Draft SPEIS mentions but does not analyze the impacts associated

with the manufacture and filling of tritium targets for the National Ignition Facility at the LLNL main site. This activity is likely to increase airborne tritium emissions, tritium-contaminated wastes, and other environmental and health impacts of tritium at Livermore Lab and in the surrounding communities.

- According to the Livermore Lab 10-Year Site Plan, the National Ignition Facility is an "integral part" of the Complex. As such, it must be analyzed both with regard to programmatic alternatives and environmental and other impacts associated with the use of tritium and other elements.
- The Draft SPEIS fails to consider that the tritium R&D activities in the Preferred Alternative are driving a major expansion of the tritium facility at Livermore Lab under the Tritium Facility Modernization Project.
- The Draft SPEIS dismisses the amount of tritium at LLNL as a "small quantity", and if this is DOE's basis for not analyzing the potential impact on LLNL workers and the public, it is an improper one.
- The SPEIS describes neither a "Target Fabrication Facility" at LLNL nor the aforementioned Tritium Facility Modernization Project. What is the relationship between the facilities and to the Complex Transformation plan? Why are these relationships absent from the SPEIS?

Response: *The Target Fabrication Facility at LLNL is not mentioned in the SPEIS other than to indicate that related decisions are based on existing NEPA analysis and will not be reconsidered. The targets used in the National Ignition Facility have time constraints between the loading of tritium and their use as targets. These technical constraints do not allow for target loading at an alternate site.*

The Tritium Facility Modernization Project was a project at the Savannah River Site (SRS). The project was completed in approximately 2000 and has no relationship to the Target Fabrication Facility at LLNL. In addition to overall Complex transformation efforts, a study is being conducted on the relocation of existing processes from older facilities at SRS into modern facilities, thereby reducing facility footprint and gaining efficiency from grouping process functions. Re-configuration of space at SRS to support the processing of tritium and ensure that reservoir loading and unloading supports stockpile needs is an ongoing activity. The extent to which tritium R&D operations can be consolidated within the Complex has been addressed in this SPEIS.

The impacts of continued tritium operations at LLNL related to the National Ignition Facility are included in the No Action Alternative. Those impacts were analyzed in the LLNL SWEIS, which contains more details regarding the operations and impacts at LLNL from existing operations.

6.B.2

Commentors stated that SNL/CA at Livermore sits directly to the south of LLNL. Because of the proximity of the encroaching population center toward

these two laboratories, all tritium activities at SNL/CA have been phased out. A phase out of all tritium activity at LLNL was advocated, stating that this is a viable option that should be analyzed in the SPEIS.

Response: *The LLNL tritium facility is located within the Superblock at the main Livermore site. The primary tritium mission of the tritium facility is National Ignition Facility (NIF) target R & D and filling. Under all alternatives, these activities would remain at LLNL. Additional information on tritium activities at LLNL may be found in Section 3.9.1.1 of Volume I of the SPEIS.*

6.C

NNSA FLIGHT TEST OPERATIONS

6.C.1 and 6.C.2

The following comments were received regarding flight test operations:

- Opposition to removing the Flight Test Operations out of the Tonopah Test Range.
- The loss of jobs and the devastating impact this would have on the community of Tonopah and the other, surrounding communities which rely on the hospitals, stores and infrastructure of Tonopah.
- The socioeconomic impact analysis for Flight Test Alternatives, other than continued testing at TTR, were insufficient and did not take into account the loss of volunteer jobs supporting the fire department, EMS activities, P.T.A. and teaching volunteers, and spouse-owned business jobs, all of which would be lost in addition to the 135 direct jobs associated with moving flight test activities from TTR.
- The majority of the jobs at TTR are contractor jobs, and, although the SPEIS says jobs may move to another facility, contractor jobs, in fact, would not move. Existing workers would be laid off, and new employees would be hired by a new firm at the new facility.
- An earlier NNSA study performed by NNSA's Office of Defense Programs, indicated that high-tech mobile at TTR was at least 20 million dollars less than high-tech mobile at White Sands Missile Range.
- DOE's own business case report states that TTR is the most favorable alternative.
- TTR is a small price when one considers what a mediocre baseball player is paid and to move flight test operations for a small cost, giving up national security interests, is a bad move.
- Moving flight test operations could imperil national security interests.
- If DOE were to relocate flight testing to another site, the town of Tonopah would collapse and the hospital would fold. This hospital serves more than Tonopah and would have a much larger impact than is analyzed in the SPEIS.
- The 135 direct and 256 total job loss associated with the closure of TTR was not the only factor which should be considered. Tonopah serves a larger area than just the community of Tonopah.

- Closure of TTR would close a hospital, gas stations, and stores that service a broad area of central Nevada.
- Support for moving the Flight Test Operations from TTR to NTS.
- Concern about the lack of data from WSMR to NNSA in reference to the cost to conduct the flight tests at WSMR if relocated from TTR.
- TTR already has the capabilities and has performed more analyses and provided more data than has been provided by WSMR in reference to the potential relocation of flight testing from TTR to WSMR.
- Concerns whether the future site of flight testing operations will be capable of performing at the same level as TTR. For example, testing at White Sands would cost more and could exhibit high levels of technical risk, since White Sands does not have the experience of TTR and cannot perform all aspects of testing currently performed at TTR.
- Concern about the validity of the analysis conducted at WSMR pertaining to their capability to perform flight testing operations.
- Scheduling operations at WSMR are much more difficult, and flight testing operations for NNSA would be less of a priority at WSMR than if conducted at TTR.
- The comparison of TTR to White Sands was using real data for TTR and not using real data for White Sands.

Response: *NNSA has not made a decision as to the location of flight test operations. The Preferred Alternative for the location of flight test operations is described in Section 3.17 of Volume I of the SPEIS. Once the Complex Transformation SPEIS has been completed, the environmental impacts of the various flight test operations alternatives will be considered along with other cost, technical and programmatic risk analyses in deciding the location of future flight test operations. NNSA is developing a business case analysis that will be considered in making this decision but is not part of the SPEIS. Section 5.15.4.2 of Volume II of the SPEIS has been updated in part to include data provided by Nye County and addresses the economic impacts to Nye County and specifically the Tonopah area of relocating the flight test operations from TTR to White Sands or another DoD or DOE facility. This decision, along with others, will be announced in a Record of Decision. See also comment-response section 14.I for related socioeconomic discussion.*

As a response to comments NNSA has expanded the Flight Test Alternatives in Section 3.10 of Volume I. The alternatives include No Action, Upgrade, Campaign Mode Operation (three options), Transfer to WSMR, and Transfer to NTS. The environmental impacts are described in Section 5.15. NNSA is evaluating these alternatives with respect to the anticipated workload and is looking at ways to reduce costs. This includes potential work for others in moderate hazard experimentation at TTR in one of the TTR alternatives. The socioeconomic impact analysis (Section 5.15.4.2 of Volume II) has been revised and includes information on the potential impacts to community assets such as schools and hospitals.

It is true that WSMR has many customers and is an active range; scheduling would pose more of a risk to NNSA than at TTR. NNSA would have to compete with other WSMR customers. WSMR is experienced at tracking much faster test articles than the gravity weapons tested by NNSA. There is some level of risk in getting WSMR to track the test aircraft and gravity weapon from release at very high altitudes to impact and there is some risk of capturing essential end event data for one of NNSA's telemetered flight test configurations in certain terrain. Tonopah has more experience at tracking gravity weapons since they have been doing it for many years and this is their fundamental line of business. These are some of the risks that NNSA is presently assessing and will consider along with the environmental impacts prior to making a decision.

6.C.3

A commentor expressed concern that there was groundwater contamination at TTR and that it might not be cleaned up should TTR be closed. A commentor stated that the SPEIS estimates of the environmental impacts resulting from the clean up of TTR if flight tests were to be moved to another facility are too low and do not account for all test drops conducted over the entire life of TTR. The commentor goes on to state that if all past tests were factored into the cost of closing TTR, the cost would be too high.

Response: *The commentor's concern regarding the clean-up of groundwater contamination at TTR, should the site be closed, is noted. However, as discussed in Section 3.10 of Volume I, any remediation of TTR is independent of decisions based on this SPEIS.*

6.C.4

A commentor indicated that use of Tonopah Test Range requires the permission of the Western Shoshone Nation, which, to date, NNSA has not requested. The commentor went on to indicate that because of this, use of TTR is a trespass.

Response: *The Western Shoshone have long claimed about 24 million acres of land in Nevada based on alleged violations of the Ruby Valley Treaty. In the early 1950's, the Western Shoshone filed a claim concerning these lands under the Indian Claims Commission Act of 1946 (ICCA). Under the ICCA only monetary compensation could be made to a tribe for unkept treaty promises; land or other remuneration were not available remedies. In 1962, the Commission ruled that all Western Shoshone land titles had been extinguished. In order to establish valuation for a monetary award, the Commission set July 1, 1872, as the date the land was taken. In 1976, the Commission awarded the Western Shoshone \$26 million as payment for the land. This payment was refused by the Western Shoshone who argued that rejection of the money meant that they had not been compensated and their claim to the land was still valid.*

This issue has been litigated on several occasions. In 1985 the U.S. Supreme Court held that the payment had been made in accordance with the ICCA,

which constituted full and final settlement for the land claim. Whether the Western Shoshone accept the payment had no effect on the ruling and the land was determined to belong to the United States. In a subsequent challenge the U.S. Court of Appeals for the Ninth Circuit followed the Supreme Court's decision. In response to a subsequent appeal, the U.S. Supreme Court refused to hear the case, letting the appellate court decision stand (DOE 1996b).

6.C.5

A commentor stated that although there was sympathy for the 135 people at TTR that could lose their jobs, what about the 135 people downwind of the nuclear test site that have gotten cancer because of the nuclear testing?

Response: *On October 5, 1990, the Congress passed the Radiation Exposure Compensation Act ("RECA" or "the Act"), 42 U.S.C. § 2210 note, providing for compassionate payments to individuals who contracted certain cancers and other diseases as a result of their exposure to radiation released by above-ground nuclear weapons tests or during employment in underground uranium mines. The U.S. Department of Justice developed implementing regulations, which have been published in the Federal Register. The regulations establish procedures to resolve claims in a reliable, objective, and non-adversarial manner, with little administrative cost to the United States or to the person filing the claim. As of May 21, 2008, 12,083 "Downwinder" claims had been approved and a total of \$604,120,000 paid in settlement. A total of 3,405 claims had been denied and 429 were pending. More detailed information regarding this program may be found at the U.S. Department of Justice, Radiation Exposure Compensation Program website: <http://www.usdoj.gov/civil/torts/const/reca/>.*

See also comment-response section 1.F for related discussion.

6.C.6

A commentor stated that the Joint Test Assemblies program (a program used to flight test gravity weapons) should be abandoned and the weapons simply dismantled without playing with them further at the TTR. The commentor indicated that it is not clear that this activity would continue if TTR is moved to White Sands. No analysis is provided by NNSA for the cost savings of the "dismantlement of weapons only" option. No analysis of how this continued operation aids the pursuit of non-proliferation.

Response: *As long as NNSA has the responsibility to maintain the nation's nuclear weapons stockpile, it must assure that the stockpile remains safe and reliable. One of the ways that NNSA can assure that it remains safe and reliable is through the Joint Flight Test Program with the military services. NNSA must continue the Joint Flight Test Program and it would be conducted at TTR, NTS, or the WSMR. The "dismantlement of weapons only" alternative is not within the national security missions assigned to NNSA by the Congress (The NNSA Act (Title XXXII of the National Defense Authorization Act for*

Fiscal Year 2000, Public Law 106-65)). That act also mandates that NNSA promote international nuclear safety and non-proliferation. NNSA vigorously pursues its non-proliferation mission; however, the scope of Complex Transformation is reflective of NNSA's mission to produce, maintain and enhance the safety, reliability, and performance of the United States nuclear weapons stockpile, including the ability to design, produce, and test, in order to meet national security requirements.

6.D MAJOR HYDRODYNAMIC TEST FACILITIES

A commentor stated that the Preferred Alternative should be a single new facility that would replace the capabilities of both DARHT and CFF.

Response: *The commentor's opinion is noted. However, as indicated in Section 3.11 of Volume I of the SPEIS, NNSA considers any replacement of the DARHT to be a next generation alternative that is not being considered at this time.*

6.D.1 and 6.D.2

A commentor stated his opposition to the closing of the Contained Firing Facility (CFF) at Site 300 at Lawrence Livermore National Laboratory. The commentor stated that this facility was constructed recently at a great expense and that the facility still had many years of useful life. To close this facility and build another replacement at another site is an unjustifiable expense. Another commentor was opposed to the closing of Site 300 at LLNL because it would jeopardize the safety of the nuclear weapons stockpile

Response: *NNSA is aware of the importance of the CFF and the cost and effort that went into its design and construction. The CFF, however, is only one of a large number of facilities which support the hydrodynamic Testing Program. In addition, the logistics of dispersed facilities and the cost of maintaining the separate security requirements also come into consideration. NNSA is preparing a separate business case analysis that analyzes the factors of concern to the commentor. Results from this study will be evaluated by NNSA along with the environmental impacts identified in the SPEIS, as well as other cost information prior to making a decision.*

The opposition to the closing of Site 300 at LLNL is noted. NNSA will consider the technical risks of implementing any of the SPEIS alternatives in making its decision and will not make any decisions that would jeopardize the safety of the nuclear weapons stockpile.

6.D.3

The following comments were received regarding hydrodynamic testing at LLNL:

- The impacts of ongoing and increased hydrodynamic tests at LLNL Site 300 were improperly excluded from the Draft SPEIS.

- The Draft Complex Transformation SPEIS must consider an alternative that specifically involves the closure of Site 300 and/or transition to other environmentally-benign activities.
- The closure of Site 300 is a reasonable alternative, which should be thoroughly analyzed in the Draft Complex Transformation SPEIS.
- Even assuming Site 300 is merely transferred instead of closed, that is a connected action that must be analyzed in the Draft Complex Transformation SPEIS. In this case, any environmental impacts associated with the transfer of Site 300 should be analyzed in the Draft Complex Transformation SPEIS, since that transfer could not proceed unless NNSA undertakes its planned status change for Site 300 as part the Complex Transformation plan.”

Response: *NNSA agrees that NEPA requires a rigorous exploration and evaluation of all reasonable alternatives to the Agency's proposed action. Indeed, Chapter 3 of Volume I of the SPEIS describes alternatives that could result in closure of all or portions of NNSA's Defense Program activities at Site 300 (e.g. Volume I Sections 3.8.2.2.1, 3.8.2.2.3, 3.8.2.2.8, 3.11.2.2, and 3.12.3). Section 3.16.3 states that if Site 300 were to close, 115 buildings containing approximately 340,000 square feet of floor space would be closed or transferred. At this time, NNSA has not identified future uses or users of facilities that may or may not be closed or transferred, and analysis of such actions are at this time premature. In other words, any future proposals for the use of Site 300, should its closure result from decisions made based on this SPEIS, would be properly addressed under NEPA at the time such proposals are identified.*

6.E

MAJOR ENVIRONMENTAL TEST FACILITIES

A commentator inquired if some or all of the proposed environmental testing for new sites are potentially more damaging to the environment than the environmental testing that has been conducted previously at other sites.

Response: *The three Environmental Testing Facility Alternatives are: No Action, Downsize-in-place, and Consolidate to One Site (NTS or SNL/NM). Under the No Action Alternative, it is expected that the environmental impacts would be similar to present impacts. Under downsize in place alternative, it is expected that fewer tests would be conducted and therefore environmental impacts would be less at those sites. The “consolidate at one site alternative” could result in a greater number of tests being conducted at that site and accordingly there could be an increase in the environmental impacts at that site. Under the latter two alternatives, if selected, facilities would be closed and employees laid off. Both of these latter alternatives entail the closing of a substantial number of facilities. Accordingly, there would be an initial period of additional environmental impacts associated with the decontamination and demolition and cleanup of these facilities.*

7.0 OTHER COMMENT CONCERNING ALTERNATIVES OR NNSA PROGRAM FUNCTIONS

Commentors raised the following major issues related to the alternatives considered by the SPEIS and NNSA program functions:

- There is no need for a complex to build any nuclear weapons and NNSA has failed to consider an alternative that would provide a nuclear weapons complex that does not manufacture nuclear weapons and only operates those facilities needed for the safe, secure, efficient disassembly and dismantlement of nuclear weapons and the disposition/disposal of their constituent parts.
- NNSA should include a No Production Alternative in the SPEIS that would pursue dismantlement and refrain from further nuclear weapons design and production. Under this No Production Alternative, NNSA would continue to operate only those facilities required to achieve the dismantlement of nuclear weapons and the disposition of the nuclear and non-nuclear components. One commentor provided a detailed description of the facilities and capabilities that NNSA should include in a No Production alternative.
- NNSA was wrong in initially rejecting the No Production Alternative.
- NNSA should cease the capability to design new nuclear weapons as well as the capability to design fixes to nuclear weapons to remedy safety, security and reliability problems uncovered in the weapons surveillance program.
- NNSA should adopt a no production alternative and under that alternative since flight test, hydrodynamic, and major environmental test facilities would be closed, the surveillance program would also cease. Such a No Production Alternative would result in a nuclear weapons stockpile decreasing each year at prescribed dismantlement rates with a discontinuation of capabilities that could stabilize and maintain the stockpile at a steady state level. This alternative would differ from current policy direction in that the capability to maintain the stockpile at directive levels would be lost, and the capability to replace legacy weapons with new design weapons would be abandoned. As part of this alternative, tritium production should cease, as would the life extension program and the production of any plutonium or uranium parts.
- A No Production alternative would lead the way to addressing the horrendous environmental legacy of nuclear weapons production; that it would enhance the economic status of communities in which these facilities have been located; and that it is the only viable way to comply with the NPT, show leadership in disarmament efforts, and stopping proliferation.

Response: *A dismantlement-only alternative was not analyzed because it would not meet NNSA's purpose and need for action. It would not enable NNSA to meet its statutory mission. NNSA has, however, added an analysis of a "No Net Production/Capability-Based Alternative" to the SPEIS (see Section 3.6.2 of Volume I of the SPEIS). As described in that Section, under the No Net Production/Capability-Based Alternative, NNSA would maintain the capability to produce a limited number of components and to assemble/re-assemble weapons for the legacy stockpile. This alternative would also include the capability with sufficient capacity for continued surveillance, limited life component (LLC) production, and weapon (and component) dismantlement. Surveillance at the production facilities would include the capabilities to disassemble weapons, conduct evaluations and component testing, and re-assemble weapons that have not had nuclear components destructively tested, or to re-assemble weapons with on-hand replacement components. At the laboratories, surveillance would include the capability to address anomalies detected by surveillance. Capabilities such as weapon design and certification with supporting R&D, Hydrotesting, flight testing, environmental testing, and HE R&D would be needed in order to assess, understand, and recommend corrective actions for problems detected during surveillance.*

A No Net Production/Capability-Based Alternative would require the production of a limited number of components and the assembly of weapons beyond those associated with supporting surveillance, but would not involve adding new types or increased numbers of weapons to the stockpile. Additionally, a life extension/replacement workload at no more than ten units per year would be supported under the No Net Production/Capability-Based Alternative.

Because the No Net Production/Capability-Based Alternative would still need a nuclear weapons complex to support the current surveillance program, limited life components production, dismantlement, and retain the capability for all required weapons functions, a minimum throughput of the equivalent of 10 weapons per year was assumed.

- *Based on zero addition of weapons to the stockpile, NNSA assumes a minimum production (production of 10 sets of components or possibly assembly of 10 weapons per year) to maintain capability and to support a limited life-extension program (LEP) workload.*
- *Two teams (a Livermore Valley team of LLNL and SNL/CA and a Rio Grande Valley team of LANL and SNL/NM) would be maintained with the capability to perform weapons design/certification missions and support the Stockpile Stewardship Program.*
- *A CMRR-NF would be built based on the need to replace the existing CMR because of safety and seismic concerns with the present facility.*
- *A minimum UPF would be built.*
- *Over time, a No Net Production/Capability-Based Alternative could result in a declining stockpile due to accelerated consumption of*

components for re-assembly of surveillance units and possibly due to problems identified in an aging stockpile.

See also comment-response section 5.H for related discussion of alternatives discussed but not analyzed in detail.

7.A OTHER ALTERNATIVES - GENERAL

Many commentors stated that a variety of other alternatives should be examined in the SPEIS. These proposed alternatives include:

- Peace-keeping and non-violent strategies and methods for resolving conflicts;
- Converting existing facilities for use as centers for the manufacture of components for renewable energy alternatives;
- Immediate end of nuclear weapons research, production, and the elimination of the nuclear arsenal;
- Green science laboratories over nuclear laboratories.
- Peaceful uses for nuclear power
- Locating pit production at SRS
- Other sections of the CRD discuss additional suggested alternatives including 1.F, 3.A, 3.A.1, 5.H.1, 5.E, 5.N.2, 5.N.6, 5.N.7, 6.A and 6.D.

Response: *NNSA believes that the Draft SPEIS analyzes a range that includes all reasonable alternatives that could accomplish the purpose and need stated in Chapter 2. The alternatives proposed by the commentors are noted. With respect to eliminating nuclear weapons work at any of the national laboratories, please see comment-response 7.A.2. See also comment-responses relating to other suggested alternatives in comment responses 1.F, 3.A, 3.A.1, 5.E, 5.H.1, 5.N.2, 5.N.6, 5.N.7, 6.A and 6.D.*

7.A.1 A commentor stated that SRS should be utilized as a nano-solar power sheet.

Response: *The Complex Transformation SPEIS analyzes the potential environmental impacts of reasonable alternatives to continue transformation of the nuclear weapons complex to be smaller, more responsive, efficient, and secure in order to meet national security requirements. Other actions, such as renewable energy research, are the programmatic concerns of other DOE programs and are not within the scope of this document.*

7.A.2 NOT USED

7.A.3 One commentor stated that the SPEIS needs to consider an alternative that would locate the nuclear weapons facilities in a southwest triangle configuration consisting of Pantex, LANL, and SNL/NM. The commentor contended this would result in a smaller, more compact and efficient nuclear weapons complex

largely contained within the southwestern triangle defined by Amarillo, Texas, and Albuquerque and Los Alamos, New Mexico, supported by occasional flight testing at White Sands Missile Range and maintenance of a small annual pit production capacity-not actual pit production-at LANL, which capacity requires no further enlargement to meet sensible national security requirements. The commentor stated that the potential synergy of this Southwest Triangle Option with a further consolidation of uranium operations to a site within this triangle, thereby eliminating weapons program operations and facilities at Y-12, must also be examined.

Response: *The SPEIS includes two alternatives that would locate the nuclear weapons facilities in the area which the commentor refers to as the “southwest triangle configuration:”*

- *The CNPC alternative, if selected and located at the Pantex site, would consolidate essentially all nuclear production and weapons assembly and disassembly activities in the area suggested by the commentor. If a CNPC alternative were selected at Pantex, pit manufacturing at LANL would be discontinued and uranium weapons program activities at Y-12 would cease.*
- *The CNC alternative, if selected and located at LANL would locate pit production and uranium operations at LANL while maintaining the assembly and disassembly activities at Pantex.*

There are also alternatives for maintaining a very small pit manufacturing capability at LANL including the No Action Alternative and the Capability-Based Alternatives. The alternative for flight testing at the White Sands Missile Range is one of the alternatives being considered for continued Flight Testing activities. Accordingly, NNSA could decide to configure the Complex as the commentor suggested within the framework of the existing alternatives considered in the SPEIS. While the commentor did not directly suggest that NNSA consolidate or transfer LLNL’s nuclear weapons functions of LLNL to another location, see comment-response 7.A.7 for an explanation of NNSA’s reasons for not proposing to transfer LLNL’s nuclear weapons functions. With respect to potentially relocating the KCP non-nuclear operations within the “southwest triangle”, see comment-response 12.

7.A.4

A commentor stated that the SPEIS is grossly deficient and is not forthcoming about future accelerated dismantlement rates. Accelerated dismantlement could become a major national security priority. That commentor went on to state that most of all, it would be a steep stockpile reduction, a focus on strongly accelerated rates of dismantlement, and a radical shrinking of the nuclear weapons complex that would most directly enhance U.S. nuclear weapons safety and security, none of which Complex Transformation assumes as a reasonable course of action, much less seriously considers. Related comments suggested that both Pantex and NTS could be used to accelerate dismantlements if that

becomes a national priority.

Response: *Section 3.6.3 in the SPEIS discusses the effects of significantly reduced stockpile sizes, including the long-term impact on assembly and disassembly activities. NNSA does not foresee a requirement to physically expand capacity at an assembly or disassembly facility. If the only activity being conducted at that facility is assumed to be disassembly, its rate of disassembly could be increased as the number of assembly operations is reduced. If, as suggested by the comments, a new national priority is established to accelerate dismantlement, NNSA would formulate a proposal to implement that policy and prepare NEPA documentation, accordingly, prior to taking any action. Such proposed action could include using both Pantex and NTS (if available) or whatever facilities were available at that time to perform the mission.*

Whether the United States further reduces or eliminates its nuclear weapons stockpile is a decision that can be made only by the President and the Congress. It is not a decision that can be made by NNSA. NNSA has no basis to predict that nuclear weapons will not be a part of this Nation's national security arsenal over the time period covered in this SPEIS. The range of alternatives analyzed in this SPEIS encompasses the range that NNSA believes could reasonably evolve from any changes to National policy with regard to the size, number and design of nuclear weapons in the foreseeable future. All of the alternatives being considered would provide a robust dismantlement capability.

7.A.5

A number of commentors stated that the Draft SPEIS arbitrarily excludes analysis of reasonable alternatives for significant consolidation. In particular, the Draft SPEIS arbitrarily excludes examination of consolidation options that would eliminate one or more geographically distinct sites that are no longer necessary. Some commentors indicated that the range of alternatives considered in the Draft SPEIS is insufficiently broad in light of the stated purpose and need for Complex Transformation. They state that for instance, NNSA does not appear to have evaluated truly consolidating the nuclear weapons complex, which would mean closing down a number of sites, including LLNL, its Site 300 high explosives testing range, and the Kansas City Plant.

Response: *Consolidation, for the purpose of consolidation is not within the Agency's purpose and need. The SPEIS analyzes alternatives that will make the Complex more efficient and responsive than is the case under the no action alternative. Consolidation alternatives were formulated with the purpose and need in mind. The SPEIS assesses a range of reasonable alternatives for the future weapons complex that includes alternatives that if selected, would eliminate one or more nuclear weapons complex sites. Elimination of one or more geographically distinct sites that are no longer necessary could result from the analysis in the SPEIS. For example, if a CNPC or CNC were selected and located at Pantex, uranium weapons activities would cease at Y-12. If a CNPC were selected and sited at NTS, weapons activities at Pantex would cease.*

Accordingly, NNSA could decide to consolidate the Complex in a way that would eliminate one or more geographically distinct sites that are no longer necessary within the framework of the existing alternatives considered in the SPEIS. The SPEIS does not exclude examination of consolidation options that would eliminate one or more geographically distinct sites. See also comment-responses 7.A.6 and 7.A.7, which address why NTS and LLNL were not considered for closure. See comment-response 12 for information concerning KCP.

7.A.6

A commentor stated that under a NEPA alternative that presumes good faith United States compliance with the Nuclear Non-proliferation and Comprehensive Test Ban treaties, NNSA must examine the closure of its underground nuclear weapons testing grounds at NTS, while consolidating nuclear warhead stockpile support functions at Los Alamos National Laboratory, and non-nuclear component production at Sandia National Laboratory.

Response: *NNSA is required by U.S. law to maintain the capability to conduct underground nuclear testing at the NTS, if directed by the President (50 USC §2528a). The continuation of the ability to conduct tests at the NTS was assessed in the NTS SWEIS (DOE 1996b) and in the SSM PEIS (DOE 1996d). There are no proposals or alternatives in the SPEIS that involve, or potentially involve decisions relating to either continuation or discontinuation of the NTS's capability to conduct tests. The ability to conduct underground nuclear tests is an essential existing and ongoing element of NNSA's science based Stockpile Stewardship and Management Program. The NTS's ability to conduct underground tests is unique and cannot be reasonably consolidated or relocated to another site. Accordingly, closure of the NTS is not a reasonable alternative to the proposed action.*

The SPEIS assesses a CNPC Alternative that would consolidate all weapons production operations at LANL. The foundation that NNSA must use to define its programmatic requirements is a combination of the current Presidential Decision Directives and Nuclear Weapon Stockpile Plans which establish the current stockpile weapon types and numbers; the Congressional direction contained in authorization and appropriation acts; as well as the experience and judgment of NNSA in consultation with the DoD and the experts from NNSA's national laboratories.

The KCP EA (DOE/EA-1592) analyzes alternatives including consolidation of most of the non-nuclear component production to SNL. The Finding of No Significant Impact issued by both GSA and NNSA did not select either option in the alternative that would have consolidated the KCP activities at SNL (73 FR 23244, April 29, 2008). Additional information regarding non-nuclear production may be found in comment-response 12, Kansas City Plant, and in the KCP EA.

7.A.7

A commentor proposed another alternative that is asserted to be in line with health, environmental, and security concerns that needs to be examined in the Final SPEIS. This alternative would be to end new nuclear weapons design, testing, and production functions altogether at both laboratories. One commentor stated that in light of the multiple problems at LANL and the fact that LLNL was given the role of new pit design, one alternative without a LANL in Complex Transformation, in which the existing pit production at LANL is terminated, should be considered. Also cited as support for elimination of LANL as a nuclear weapons laboratory was LANL's record of poor plutonium accounting as it relates to waste and the flash drive security issue. Other reasons cited by commentors for eliminating LANL include the fact that plutonium, strontium, and other radionuclides have found their way into groundwater near the facility.

Response: *NNSA is considering transformation of the nuclear weapons complex to make it more responsive and cost effective by eliminating unnecessary and duplicative facilities and activities. Each of NNSA's national laboratories provides unique programmatic capabilities, including nuclear weapons design work performed at both LLNL and LANL. Having two competent design teams available to provide independent peer review of each others work, among other advantages of having laboratories with weapons design capability, the multiple laboratory model, provides NNSA with the necessary assurance for its annual stockpile "certification" required to avoid future underground nuclear testing. The foundation that NNSA must use to define its programmatic requirements is a combination of the current Presidential Decision Directives and Nuclear Weapons Stockpile Plans which establish the current stockpile weapon types and numbers; the Congressional direction contained in authorization and appropriation acts; as well as the judgment of NNSA in consultation with the DoD and the experts from NNSA's national laboratories. Using this information, NNSA makes reasonable assumptions as to the configuration and capacity for the nuclear weapons complex for the next decade or so. NNSA has no basis to assume that nuclear weapons will not be a part of this Nation's defense over the time period covered in this SPEIS. The range of alternatives analyzed in this SPEIS covers the range that NNSA believes could reasonably evolve from any changes to National policy with regard to the size, number and design of nuclear weapons in the foreseeable future.*

In October 2006, a police search of a LANL subcontractor's home in Los Alamos recovered classified information taken from the laboratory. The subcontractor, who possessed a security clearance, had removed the information from a highly classified facility at the laboratory. In response to this incident NNSA issued a preliminary notice of violation to the University of California with a proposed civil penalty in the amount of \$3 million and, a separate preliminary notice of violation to Los Alamos National Security (LANS) with a proposed civil penalty in the amount of \$300,000. In addition, the Secretary of

Energy issued a Compliance Order to LANS requiring it to address a number of issues regarding the protection of classified information. In response to this Order, LANS implemented a number of measures to strengthen controls including destroying an estimated 1.4 million “legacy” classified documents, reducing the number of accountable electronic classified items from 87,000 to 4,472, reducing the number of vaults and vault-type rooms holding classified data from 142 to 114, and consolidating classified material and classified processing operations into a “Super Vault Type Room” (GAO 2008).

Comment-response 10.B.1 provides information regarding the alleged problems with plutonium accountability at Los Alamos.

Information regarding surface and groundwater quality at LANL may be found in Section 4.1.5 of Volume I of the SPEIS.

The SPEIS analyzes alternatives that would discontinue the pit production mission at LANL. For example, as discussed in Section 3.5 of Volume I, Programmatic Alternative 2, Consolidated Centers of Excellence, a Consolidated Nuclear Production Center, if constructed at NTS, Pantex, SRS, or Y-12, would transfer the pit manufacturing mission to these facilities and result in the discontinuation of the pit manufacturing mission at LANL. Additionally, if a CPC were located at a site other than LANL, pit production at LANL would be discontinued.

7.B and 7.B.1

TRANSPORTATION OF NUCLEAR MATERIALS

A number of commentors stated their concerns that the transportation of nuclear materials is extremely dangerous and hazardous to health. Among their concerns were:

- Transporting nuclear material is hazardous and will “create death”.
- Plans for radioactive waste transportation are unacceptable.
- The transportation of nuclear material from LLNL is dangerous.
- The SPEIS should be revised to decrease the amount of plutonium transport.
- Nuclear materials should be taken to the most safe and secure location to decrease the chance of an accident or attack.
- The Preferred Alternative would reduce that amount of shipping throughout the Complex which would result in lesser potential environmental impacts.
- The transportation activities were at significant risk from potential terrorist activities.
- The option of consolidating all plutonium at one site without multiple transportation routes from LLNL should be considered.
- The SPEIS must consider the environmental impacts and security risks of

transporting SNM and nuclear weapons and components via highway across the U.S. to the proposed sites.

- The weakest link in the nuclear weapons program is the transportation of nuclear materials between sites.

Response: *As described in Section 5.10 of Volume II of the SPEIS, the environmental impacts associated with transporting nuclear materials that would be necessary to implement any of the alternatives is very small. NNSA's record of transporting nuclear materials demonstrates that the activity is safe. Special transport vehicles and procedures are used in the transportation of TRU wastes and Category I/II special nuclear material to decrease the likelihood of release of radioactive material in the event of an accident or attack. Section 5.10 of Volume II of the SPEIS includes a detailed discussion of potential impacts from transportation activities. NNSA seeks to minimize transportation of radioactive materials when implementing its programs. Cumulative transportation impacts are addressed in Chapter 6 and Appendix C, Section C.7, provides additional information regarding transportation radiological accidents.*

As noted in Section 3.16.6 of Volume I of the SPEIS, this SPEIS contains a classified appendix that analyzes intentional destructive acts, which, if successfully completed at locations considered in the intentional destructive acts analysis, could result in impacts on workers and surrounding populations that are as or more severe than accident scenarios analyzed in Chapter 5 of the SPEIS. See also comment-response 13.D for related discussion.

7.C-7.D NOT USED

7.E SECURITY CONCERNS

Commentors were appreciative of proposed alternatives which would make security better but were also concerned about specific security issues. Specific comments are as follows:

- The Preferred Alternative would enhance safety and security as it combines the nuclear materials making it easier to protect these materials. Commentor stated that day-to-day security functions cost too much at the existing Complex.
- One commentor stated that they look forward to continuing their work with the Congress and the next administration to make a safer and more secure stockpile.
- The effects to the environment and public health if a terrorist attack was targeted (and successful) at a nuclear weapons facility.
- The security at specific locations, including LANL and LLNL.
- Other commentors expressed support and confidence in security at Y-12.
- The ability of WSMR to maintain the security of the stockpile.
-

Response: *The alternatives in the Complex Transformation SPEIS would improve the security of the nation's nuclear weapons complex by consolidating SNM and operations. The sites in NNSA's nuclear weapons complex are some of the most secure facilities in the world, because NNSA uses modern security technology, deploys sophisticated assets and has a well-trained protective force. To ensure security, NNSA employs three primary strategies:*

- *Use of integrated program management to define priorities and performance objectives and evaluate contractor performance;*
- *Implementation of a human capital management plan to improve the quality and training of safeguards and security professionals with an intern program to attract high-quality college graduates; and,*
- *Focus on technology to offset the reliance on costly and manpower-intensive protection strategies.*

No alternative under Complex Transformation would involve the storage or use of nuclear weapons at WSMR.

Information related to terrorism is contained in comment-response 13.

7.F SAFETY CONCERNS

Commentors expressed general concerns about the safety of NNSA operations. Some commentors expressed specific concern for safety at LANL, Pantex, and Y-12. Some commentors commended NNSA on its safety record. Commentors were also supportive of Y-12's worker skills and safety record.

Response: *The proposed action and alternatives focus on making the complex more responsive and cost effective while maintaining the ability to ensure the safety and reliability of the stockpile. NNSA and its contractors are subject to DOE Orders and regulations designed to protect the environment and worker health and safety. Nuclear facility safety is also subject to independent oversight by the Defense Nuclear Facilities Safety Board. NNSA tries to minimize both the possibility and consequence of accidents through a system that consists of both engineering and administrative controls. NNSA also tries to identify the causes of accidents and apply the lessons learned to avoid and mitigate accidents in the future. However, no system can totally prevent accidents. That is why the SPEIS analyzes the consequences of postulated accidents for all of the alternatives. NNSA notes the comments supporting the worker's skill and safety record at Y-12.*

7.G-7.I NOT USED

7.J SITE CLEANUP

Commentors were concerned about the clean-up of existing problems at the

NNSA sites. Specific comments are as follows:

- NNSA should not assign new missions or functions to sites until those sites have been fully cleaned-up from the pollution resulting from past weapons activities.
- “Pollution Prohibits New Missions.”
- NNSA priorities should be to clean-up existing pollution at the weapons complex sites and convert the facilities to “Green” missions.
- Funds not used to produce nuclear weapons should be used to clean-up the sites.
- NNSA needs to continue with the clean-up efforts at the sites whether or not Complex Transformation occurs.
- More needs to be done to protect air and water resources at the NNSA sites.
- NNSA sites are not in compliance with environmental requirements contained in Consent Orders, Compliance Agreements, or other legal requirements.
- In view of NNSA’s poor environmental record, NNSA cannot be trusted to provide adequate protection of the environment.

Response: *The Complex Transformation SPEIS analyzes the potential environmental impacts of reasonable alternatives to continue transformation of the nuclear weapons complex to be smaller, more responsive, efficient, and secure in order to meet national security requirements. Other actions, such as remediation of DOE sites are not within the scope of this document. Remediation is analyzed in other NEPA, CERCLA and RCRA documents. The impacts of remediation are included within the cumulative impacts at each analyzed site.*

DOE has a large remediation program and is aggressively addressing past contamination issues at each of its sites. These programs are being conducted in accordance with Federal and state regulatory requirements and include implementation of administrative and engineered controls to minimize additional releases, as well as surveillance monitoring of the environment and reporting of exposure assessments. These remediation activities involve Federal, state and local regulators, have their own schedule and funding, and are separate from actions being proposed in the SPEIS.

7.J.1 NOT USED

7.J.2 DECONTAMINATION AND DECOMMISSIONING

A commentor stated that decontamination and demolition (D&D) must be further analyzed in more depth than what is included in the Draft SPEIS. Specifically, the commentor stated that the D&D of some of the buildings is mentioned, but the environmental impacts are not analyzed in depth. The commentor requested:

- Please list all the buildings that will undergo D&D for the Preferred Alternative. The cost of D&D of the CMR, at LANL, must be included.
- Please include the environmental impacts of the D&D of all unused or replaced buildings.
- Please consider the alternative of storing all waste on-site.
- For all of the alternatives, the SPEIS must describe where that waste will be stored and disposed, and the costs and impacts of such storage and disposal.
- The environmental impact of increased waste going to private waste disposal facilities must be analyzed. Despite the fact that wastes may end up in a private waste facility, those facilities still need environmental impact statements for the communities living near private disposal facilities.
- The full cost of D&D of existing facilities, the cost of designing, constructing, operating, decontaminating, and decommissioning all the facilities must be fully analyzed and the costs described in the SPEIS. In the words of the SPEIS Notice of Intent, how these costs are "economically sustainable" must be fully described and evaluated.
- Please describe the health and environmental impacts of the existing Complex as well as the proposed new Complex.
- Please project cleanup costs of Complex Transformation.

Response: *Impacts from the D&D of a facility are evaluated in detail when a site-specific D&D plan is developed for that specific facility. Such a plan requires the in-depth characterization of the existing structure and surrounding soils and involves monitoring, sampling, and a detailed assessment. Until such time as decisions are made regarding which buildings are not needed, these plans are unwarranted. The SPEIS does, however, estimate, for each alternative, at each location, the general D&D effort that would be required for each alternative using existing data in compliance with NEPA guidelines. Throughout Chapter 5, as appropriate, the SPEIS includes projections of the square footage of the building footprints that would be eliminated, and estimates the amount of concrete, steel, low-level waste, TRU waste, contaminated soil and hazardous wastes that would be generated (see, for example, Sections 5.12.3.4, 5.15.4.3, and 5.16.2.1-5.16.2.5). This analysis is based on average D&D data, and knowledge of what activities (and associated chemicals and materials) were conducted in the specific structures. The analysis further discusses, in qualitative terms, how such quantities of waste would be managed for the project-specific alternatives, such as SNM Consolidation, Tritium R&D, Flight Test Operations, Hydrodynamic Testing, and Environmental Testing. In addition, the SPEIS addresses the D&D that would be involved with programmatic decisions that could result in the closure of Pantex, as discussed in Section 5.5.15, and Y-12, which is discussed in Section 5.9.15 of Volume II. Health and environmental impacts are discussed in the SPEIS. See also comment-response section 14 for related discussion.*

- 7.J.3** A commentor stated that D&D of the CMR must be included in this SPEIS and requested a cost-benefit analysis of the costs of upgrading CMR, including seismic upgrades, versus the costs of D&D of CMR plus the construction cost of CMRR.

Response: *The construction of the CMRR-NF is considered as part of the impacts at LANL for both the 50/80 alternative and the Capability-based alternatives. The environmental impacts of actions related to the CMR and CMR-R are also evaluated in the Chemical and Metallurgy Research Replacement Facility EIS (DOE 2003f). The Final SPEIS includes a discussion of the impacts of CMR D&D in Section 5.1.14.6 of Volume II.*

7.K NEW TRIAD

A commentor questioned when and where NNSA was given permission to design the New Triad which defines the delivery of our weapons systems.

Response: *The “New Triad” was not designed by NNSA. As described in Chapter 2 of the SPEIS, a reliable and responsive infrastructure is a cornerstone of the New Triad discussed in the 2001 Nuclear Posture Review, a DoD document.*

7.L NOT USED

7.M PROPOSED FUTURE OF THE NUCLEAR WEAPONS COMPLEX

A commentor expressed concern about who should be responsible for determining the future policy on nuclear weapons. Other commentors expressed concern about a potential nuclear incident or nuclear warfare in the future and the impacts from potential use or the testing of nuclear weapons. A commentor stated opposition to plans to modify nuclear facilities across the county.

Response: *The nuclear weapons policy is set by the President and the Congress. The SPEIS addresses potential accidents in Chapter 5 of Volume II, for each site. Appendix C contains a more detailed discussion of potential accidents. Testing of nuclear weapons is not a proposed action, as stated in Chapter 2 of Volume I of the SPEIS.*

- 7.M.1** A commentor stated that the Draft SPEIS does not adequately analyze the environmental impacts of the alternatives that are discussed. The commentor elaborated, stating that the analysis should include the impacts of using some or all of the warheads against one or more nations or non-national groups. The impacts considered should be on the locations where the nuclear weapons would be used, as well as on the United States. The commentor went on to state that there is no such analysis in the Draft SPEIS, even though commentors

specifically stated in scoping comments that such an analysis is required.

Response: *NNSA is responsible for maintaining the safety, security, and reliability of the United States' nuclear weapons stockpile. The Complex Transformation SPEIS analyzes the potential environmental impacts of reasonable alternatives to continue transformation of the nuclear weapons complex to one that is smaller, more responsive, efficient, and secure. The President is responsible for decisions regarding the use of nuclear weapons. Accordingly, the use of nuclear weapons is not under the purview of NNSA and therefore not within the scope of this SPEIS.*

7.N

PREFERRED ALTERNATIVE

Commentors expressed support for the Preferred Alternative. Other commentors indicated their support for the Preferred Alternative, Distributed Centers of Excellence, specifically, uranium at Y-12, stating that Y-12 is the most secure site available for the Uranium Processing Facility. Other commentors were opposed to the Preferred Alternative at LANL. One commentor stated that the Preferred Alternative does not make sense, that it is not consistent with the stated purpose and need, and that it has the worst environmental impacts.

Response: *NNSA notes the comments supporting and opposing Complex Transformation and specific aspects of the Preferred Alternative. See comment-response 7.N.2 for more information on the Preferred Alternative.*

7.N.1

Commentors expressed their dissatisfaction with the presentation of the environmental impacts for the Preferred Alternative, stating that:

- The presentation of the environmental impacts for the Preferred Alternative is confusing.
- They must be written in plain language, and prominently displayed in the summary.
- The Draft SPEIS fails one of the basic threshold tests of adequacy for an EIS in that the analysis of reasonable alternatives for the Draft SPEIS does not present a meaningful comparison of alternatives such that the impacts can be meaningfully compared.
- The analysis of the environmental impacts for the Preferred Alternative is presented piecemeal out of various program and project options.
- The “mix and match” smorgasbord approach, in which building blocks are indiscriminately stacked, in the end is unacceptable.

Response: *The SPEIS has been revised to provide a better presentation of the environmental impacts for the Preferred Alternative and to simplify comparison of NNSA's Preferred Alternative with other alternatives in the document. More specifically, the environmental impacts of the Preferred Alternative are described in a new Section 5.20 in Volume II of the SPEIS, and Tables 3.16-2 through 3.16-8 in Volume I of the SPEIS have been amended to allow for a*

better comparison of the environmental impacts of the alternatives.

7.N.2

A commentor stated that the Preferred Alternative in the Draft SPEIS is arguably the worst in many ways because it:

- Wastes huge amounts of taxpayer money by keeping nuclear weapons functions at Los Alamos, even though the new pit design function has been given to Livermore;
- Centers plutonium pit production at Los Alamos, which has had serious plutonium accounting problems and many other security related problems and infractions - far more than Livermore - as well as problems with water contamination; and,
- Increases the risk of more serious pollution of ground and surface waters in and around Los Alamos, especially in case of fires or serious accidents, even after past weapons work has already created significant pollution that remains to be remediated.

Response: *NNSA has presented the environmental impacts for the proposed action and reasonable alternatives in the Draft SPEIS. Besides considering these impacts a number of other factors, including engineering, security, and costs, will be considered before making any decisions regarding Complex Transformation. Although NNSA's Preferred Alternative is described in Section 3.17 of the SPEIS, it is possible that consideration of all of the factors involved could lead the agency to decisions different from those now designated as the Preferred Alternative. Environmental impacts associated with each alternative are described in Chapter 5 of Volume II of the SPEIS.*

7.O**NO PRODUCTION ALTERNATIVE**

Commentors stated that there was no need for a complex to build any nuclear weapons and NNSA failed to consider an alternative that would provide a nuclear weapons complex that would manufacture no nuclear weapons. Commentors stated that DOE should consider a No Production Alternative and that:

- Under this alternative, NNSA would, "operate only those facilities needed for the safe, secure, efficient disassembly and dismantlement of nuclear weapons and the disposition/disposal of their constituent parts."
- NNSA should include a No Production Alternative in the SPEIS that would pursue dismantlement and refrain from further nuclear weapons design and production, and that NNSA was wrong in initially rejecting the No Production Alternative.
- NNSA should include in a "No Production" alternative in which it would continue to operate only those facilities required to achieve the dismantlement of nuclear weapons and the disposition of the nuclear and non-nuclear components. Such a program would cease the capability to design new nuclear weapons as well as the capability to design fixes to

nuclear weapons to remedy safety, security and reliability problems uncovered in the weapons surveillance program. In fact, since flight test, hydrodynamic, and major environmental test facilities would be closed, the surveillance program would also cease. Such a No Production Alternative would result in a nuclear weapons stockpile decreasing each year at prescribed dismantlement rates with a discontinuation of capabilities that could stabilize and maintain the stockpile at a steady state level. This alternative would differ from current policy direction in that the capability to maintain the stockpile at Presidential directive levels would be lost, and the capability to replace legacy weapons with new design weapons would be abandoned. As part of this alternative, tritium production should cease, as would the life extension program and the production of any plutonium or uranium parts.

Response: *NNSA has added an analysis of a “No Net Production/Capability-Based Alternative” to the SPEIS (see Section 3.6.2 of Volume I). As described in that Section, under the No Net Production/Capability-Based Alternative, NNSA would maintain the capability to produce a limited number of components and to assemble/re-assemble weapons for the legacy stockpile. This alternative would also include the capability with sufficient capacity for continued surveillance, limited life component production, and weapon (and component) dismantlement. Surveillance at the production facilities would include the capabilities to disassemble weapons, conduct evaluations and component testing, and re-assemble weapons that have not had nuclear components destructively tested, or to re-assemble weapons with on-hand replacement components. At the laboratories, surveillance would include the capability to address anomalies detected by surveillance. Capabilities such as weapon design and certification with supporting R&D, Hydrotesting, flight testing, environmental testing, and HE R&D would be needed in order to assess, understand, and recommend corrective actions for problems detected during surveillance.*

A No Net Production/Capability-Based Alternative would require the production of a limited number of components and the assembly of weapons beyond those associated with supporting surveillance, but would not involve adding new types or increased numbers of weapons to the total stockpile. Additionally, a life extension/replacement workload at no more than ten units per year would be supported under the No Net Production/Capability-Based Alternative.

Because the No Net Production/Capability-Based Alternative would still need a nuclear weapons complex to support the current surveillance program, limited life component production, dismantlement, and retain the capability for all required weapons functions, a minimum throughput of the equivalent of 10 weapons per year was assumed.

- *Based on zero addition of weapons to the stockpile, NNSA assumes a minimum production (production of 10 sets of components or possibly*

assembly of 10 weapons per year) to maintain capability and to support a limited LEP workload.

- Two teams (a Livermore Valley team of LLNL and SNL/CA and a Rio Grande Valley team of LANL and SNL/NM) would be maintained with the capability to perform weapons design/certification missions and support the Stockpile Stewardship Program.*
- A CMRR-NF would be built based on the need to replace the existing CMR because of safety and seismic concerns with the present facility.*
- A minimum sized UPF would be built as a smaller facility that contains all processes but less equipment; however, the facility will not be significantly smaller than the current UPF design and will not scale proportionally with capacity.*

Over time, a No Net Production/Capability-Based Alternative could result in a declining stockpile due to accelerated consumption of components for re-assembly of surveillance units and possibly due to problems identified in an aging stockpile.

8.0

RELIABLE REPLACEMENT WARHEAD

Many commentors expressed opposition to RRW.

Response: *As stated in Section 2.5 of the SPEIS, Complex Transformation is not dependent upon or a precursor an RRW. As it is stated in Chapter 2, it is the view of NNSA that the Nuclear Weapons Complex requires transformational changes to improve its responsiveness and cost effectiveness without regard to RRW. Complex Transformation is designed to increase the efficiency, effectiveness, and responsiveness of the nuclear weapons complex. Complex Transformation must take place with or without RRW and the facilities proposed in the SPEIS are required for either outcome. NNSA will be hard pressed to meet LEP commitments without successfully implementing Complex Transformation. If an RRW were authorized by the next Administration and Congress, its concepts could enhance the efficiency and responsiveness of the Complex compared to an LEP-only approach. As described in Chapter 2 of Volume I, the RRW concept increases intrinsic security in the weapons themselves, employs fewer exotic and hazardous materials, uses more environmentally benign materials, and could mean eventual lower lifecycle costs by eliminating some processes needed to support today's weapons, such as the need to machine and handle conventional high explosives. Additionally, if RRW meets the promise of allowing a smaller nuclear stockpile, additional savings could be achieved.*

8.A

RELIABLE REPLACEMENT WARHEAD -- GENERAL

Some commentors expressed concern that the SPEIS refers to a goal of creating 120-125 new warheads annually despite the Congress' recent rejection of the

RRW program. Commentors also expressed concern that development of the RRW would be pursued despite the Congress' rejection of the proposal. Some commentors stated that the Congress had rebuked the RRW program.

Response: *As noted in Section 2.5 of the SPEIS and comment-response 8.B.1, Complex Transformation is not dependent upon or preparatory to an RRW. Further, as also noted in comment-response 8.B.1, NNSA may not proceed with RRW without direction from the Congress and the President. The Congress has declined to provide continued funding for it at this time.*

The U.S. nuclear weapons stockpile is aging, with some warheads designed and constructed over 40 years ago. NNSA has increasing concerns about the ability in the long-term to certify the safety and reliability of these warheads without nuclear testing. That is the impetus for NNSA's consideration of an RRW approach which could introduce significant safety and security enhancements and allow the best opportunity for a smaller stockpile. Alternatively, and absent congressional support for RRW, NNSA will continue to rely on a LEP) approach to the legacy stockpile. Neither approach would introduce new military capabilities to the stockpile, although an LEP approach because of the already beyond design life of our current stockpile, may prove too costly and may ultimately not be viable in the long run should we require our deterrent through this century. Some of the technologies and capabilities in the Complex, required for either the LEPs or RRWs, have atrophied or will atrophy and may have to be completely reconstituted if NNSA does not take action soon. NNSA must ensure that essential nuclear capabilities are maintained.

8.B and 8.B.1

OPPOSITION TO RELIABLE REPLACEMENT WARHEAD

Commentors indicated their opposition to RRW and stated that:

- The United States does not need an RRW.
 - The United States already has far more nuclear weapons than could or would ever be used.
 - The existing stockpile is safe, secure and reliable and, with a potential pit lifetime off an additional 75-100 years, will remain that way for decades to come, thus obviating any need for an RRW.
 - Congress has rejected the idea of an RRW but NNSA improperly continues with the program anyway.
 - Complex Transformation is only an excuse to create a Complex that is capable of producing the RRW - which is unneeded.
-
- The RRW would send the wrong message to the world and create a new arms race with the current nuclear powers and encourage others to develop nuclear weapons.

- The development of RRW would necessitate a return to underground testing.
- The RRW is a program to build first strike weapons which would destabilize the current political environment in the world.
- The design of new weapons is critical to ensure that the next generation of weapons designers is capable of designing safe, secure and reliable weapons.
- The potential connections between the RRW program, the proposed new pit production facility at LANL and the Complex Transformation plan, as a whole, must be detailed in the SPEIS.
- It was imperative that the Complex Transformation and RRW be separately considered.

Response: *The Reliable Replacement Program was established by the Congress in Section 3111 of the National Defense Authorization Act for FY2006 (Public Law 109-163), with the following objectives:*

- (1) To increase the reliability, safety, and security of the United States nuclear weapons stockpile.*
- (2) To further reduce the likelihood of the resumption of underground nuclear weapons testing.*
- (3) To remain consistent with basic design parameters by including, to the maximum extent feasible and consistent with the objective specified in paragraph (2), components that are well understood or are certifiable without the need to resume underground nuclear weapons testing.*
- (4) To ensure that the nuclear weapons infrastructure can respond to unforeseen problems, to include the ability to produce replacement warheads that are safer to manufacture, more cost-effective to produce, and less costly to maintain than existing warheads.*
- (5) To achieve reductions in the future size of the nuclear weapons stockpile based on increased reliability of the reliable replacement warheads.*
- (6) To use the design, certification, and production expertise resident in the nuclear complex to develop reliable replacement components to fulfill current mission requirements of the existing stockpile.*
- (7) To serve as a complement to, and potentially a more cost-effective and reliable long-term replacement for, the current Stockpile Life Extension Programs.*

Section 3111 mandates the study of a different technical approach to the production and maintenance of the safety, security and reliability of the nuclear weapons stockpile without nuclear testing. See also comment-response 8.E for related discussion on RRW and Complex Transformation.

The RRW program thus began as a direction from the Congress. Whether NNSA is directed to continue this program will be decided by the President and the Congress. It is the view of NNSA, as described in the SPEIS, that the nuclear

weapons complex requires transformational changes to improve the responsiveness and cost effectiveness of the Complex without regard to RRW. One statutory objective of the RRW program, as shown above, is to “further reduce the likelihood of underground nuclear weapons testing.” See comment-responses 1.F and 1.J regarding proliferation issues.

- 8.B.2** One commentor stated that the SPEIS must consider the environmental impacts of the RRW that will be caused by reprocessing, proliferation and terrorist acts using the nuclear materials either as bombs or dirty bombs

Response: *As noted in Section 2.0 of Volume I of the SPEIS, NNSA will not use this SPEIS to inform decisions on whether to proceed with an RRW. NNSA conducted an assessment of the potential environmental impacts of intentional destructive acts, e.g., terrorism on the complex. That assessment is contained in a classified appendix to the SPEIS.*

8.C – 8.D NOT USED

8.E RELATIONSHIP BETWEEN THE RELIABLE REPLACEMENT WARHEAD AND COMPLEX TRANSFORMATION

Commentors stated that the SPEIS failed to adequately consider the RRW and its relationship to the Complex, and that:

- The SPEIS fails to adequately analyze the totality of environmental impacts associated with the RRW program. For example, LLNL was chosen to develop the first RRW design. If that goes forward (and NNSA is pushing the Congress to get it funded in 2009 even after the Congress cut it last year), what are the impacts on LLNL and the surrounding communities.
- The RRW analysis must be fully transparent and included in the SPEIS.
- In exchange for giving up a number of outdated buildings, the department no longer wants or needs, the DOE will get a number of new facilities that will pave the way for the development of new nuclear weapons through the RRW program.

Response: *LLNL's role in developing the first RRW design is in line with the mission that LLNL has been conducting for many years. The environmental impacts associated with this work are described in the SPEIS and included within the environmental impacts associated with the No Action Alternative. The RRW program, a program to potentially design and produce a new generation of replacement warheads, began as a direction from the Congress (Section 3111 of the National Defense Authorization Act for FY2006 (Public Law 109-163)). Whether NNSA is directed to continue with the program will be based on decisions made by the President and the Congress. Section 2.5 of Volume I of this SPEIS describes the status and potential impacts of RRW on the Complex*

Transformation SPEIS. NNSA believes the nuclear weapons complex requires the proposed transformational changes to cost-effectively maintain the stockpile.

8.F NEED FOR RELIABLE REPLACEMENT WARHEAD

A commentor stated that RRW is unnecessary as it is an ineffective deterrent. A commentor stated that it would be hypocritical to proceed with RRW.

Response: *See comment-responses 1.J, 8.0, 8.A, 8.B.1, 8.B.2, and 8.E.*

9.0 COST AND SCHEDULE

Commentors expressed concern about the cost and schedule of the Complex Transformation Project.

Response: *Please see comment-response 9.E.1.*

9.A COST-EFFECTIVENESS OF EXISTING NUCLEAR WEAPONS COMPLEX

Commentors were opposed to spending money to modernize the existing Complex and expressed concern that:

- \$40 billion annually is appropriated to the nuclear weapons complex.
- It would cost less to not make nuclear weapons.
- Consolidating all the aspects of the current complex into one location would be expensive and not a good idea.
- Spending money to duplicate the functions of Y-12 elsewhere is wasteful and not a good idea because the human resources at Y-12 are highly skilled, unique, and irreplaceable, Y-12 is a cost-effective, safe workplace, and is supported by local educational infrastructure which cannot be duplicated elsewhere.
- It would be senseless to relocate storage facilities and SNM to some other place.

Other commentors were supportive of spending money to modernize the Complex and stated that:

- Modernization of the Complex would save money while improving safety and security at the complex.
- It is more cost effective to downsize in place.
- The running of TTR is very cost effective.
- The modernization of the Complex will preserve institutional knowledge while enhancing productivity, reducing cost, and improving safety and security.
- Spending money to modernize the existing Complex at Y-12 is a good

idea because the skills already exist at Y-12, and nowhere else.

Response: *The United States possession of nuclear weapons and the budget necessary to support the stockpile is a matter of national policy set by the President and the Congress. Complex Transformation is NNSA's vision for the most effective means of fulfilling the missions assigned to it by the Congress and the President. Decisions as to funding will ultimately be decided upon by the Congress. NNSA has commissioned an independent business case analysis to provide cost information on Complex Transformation. NNSA will use this cost information, the analysis in the SPEIS, and other information to make decisions regarding transforming the complex. The independent business case analyses are available to the public on the Complex Transformation website: www.complexttransformationspeis.com.*

9.B BETTER USE OF RESOURCES

9.B and 9.B.1 Commentors expressed general concern for the use of resources to modernize the Complex and stated that:

- Resources could be better spent.
- Resources could be better used for other purposes such as to research energy alternatives or to correct the nation's economy.
- \$150 billion could be better spent on clean-up, education, health care, etc.
- There is no need for nuclear weapons and the country would be better off if the money would be spent on other things.
- Complex Transformation is, in essence, a welfare program for the Military Industrial Complex and would provide no benefit to the nation.
- The cost of nuclear weapons is excessive and does not buy this nation any additional security - indeed, the existence of nuclear weapons makes us less secure.

Response: *The United States possession of nuclear weapons and the budget necessary to support the stockpile is a matter of national policy set by the President and funded by the Congress. Complex Transformation is NNSA's vision for the most effective means of fulfilling the missions assigned to it by the Congress and the President. The \$150 billion referred to by the commentor is an estimate of the total NNSA weapons activities program budget over the next 25 years, including implementation of decisions made on Complex Transformation and is consistent with current and planned programmatic funding levels. Decisions as to funding will ultimately be decided upon by the Congress.*

9.C FACTORS THAT COULD INCREASE PROPOSED COSTS

One commentor stated that DOE purposely delays maintenance to increase

projected cost savings. This delay could increase costs in the future.

Response: *Like most Federal programs, NNSA's nuclear weapons programs have experienced shrinking budgets in recent years. In response, NNSA has sought to improve its operations and lower its costs in order to meet its mission requirements. NNSA is keenly aware of its responsibility to the taxpayers and endeavors to make the most effective use of the resources provided to it by the Congress. See comment-response 9.D for related discussion on maintenance backlogs. Between 2003 and 2009, NNSA reduced the deferred maintenance backlog by approximately \$900 million.*

9.D

COSTS OF CLEANUP

A commentor expressed concern regarding the ultimate costs of cleanup that could result from the Complex Transformation Alternatives. The commentor stated that insufficient budgeting is an important factor resulting in a lack of funding for cleanup at LANL and other DOE national laboratories. Another commentor stated that the DOE's budget in 2009 for cleanup is more than what's being proposed for Complex Transformation.

Response: *As noted in comment-response 7.J.2, precise costs for environmental remediation (cleanup) are very uncertain until a specific plan is developed. Such a plan requires in-depth characterization of the existing structure and surrounding soils and involves monitoring, sampling, and assessment. Until such time as decisions are made regarding which buildings are not needed, these activities are unwarranted. The SPEIS does, however, estimate, for each alternative, at each location, the general D&D effort that would be required for each alternative using existing data in compliance with NEPA guidelines. Throughout Chapter 5, as appropriate, the SPEIS includes projections of the square footage of the building footprints that would be eliminated, and estimates the amount of concrete, steel, low-level waste, TRU waste, contaminated soil and hazardous wastes that would be generated (see, for example, Sections 5.12.3.4, 5.15.4.3, and 5.16.2.1-5.16.2.5 of Volume II of the SPEIS). This analysis is based on average D&D data and knowledge of what activities were conducted in the specific structures. The analysis further discusses, in qualitative terms, how such quantities of waste would be managed for the project-specific alternatives, such as SNM Consolidation, Tritium R&D, Flight Test Operations, Hydrodynamic Testing, and Environmental Testing. In addition, the SPEIS addresses the D&D that would be involved with programmatic decisions that could result in the closure of Pantex, as discussed in Section 5.5.15, and Y-12, which is discussed in Section 5.9.15 of Volume II. NNSA has a current maintenance backlog due to budget issues that does cause less critical maintenance to be deferred until funding becomes available.*

9.E and 9.E.1 COSTS OF ALTERNATIVES

The following comments were received relative to costs of the alternatives:

- Requests for additional information on costs associated with Complex Transformation, including analysis of costs for the various alternatives, specifically, whether the Preferred Alternative provides an unclassified cost ratio such as two times or 20 percent extra for the use of raw versus cast processes and the cost of alternatives to comply with treaty enforcement.
- The cost of concrete would increase if the CMRR is built.
- The SPEIS must give projected costs of Complex Transformation.
- The business case said that Transition will require a campaign mentality and a long, consistent funding horizon.
- The cash flow figures demonstrate that significant increases from baseline funding will be required to modernize and consolidate the SNM production complex. This is significant given that SNM consolidation is likely to be by far the most expensive element of proposed Complex Transformation.
- The ‘funding horizon,’ which we also interpret to be also ‘baseline funding,’ even by NNSA's projections is slated to remain relatively flat, not even taking into account likely increasing federal budget constraints. This is counter to NNSA claims that Complex Transformation can take place within its existing projected budgets.
- NNSA has actually chosen the most expensive alternative as its Preferred Alternative for plutonium pit production (the Consolidated Plutonium Center (CPC)).
- NNSA must calculate and state projected cost for Complex Transformation in this SPEIS.”

Response: *Detailed cost estimates are not provided in the SPEIS. A separate business case analysis has been developed and will be considered in making decisions on Complex Transformation. The business case analysis demonstrated that the optimum funding and scheduling profiles for transformation of the SNM would require more funds than have been devoted to that part of the enterprise in the past. However, these SNM activities have historically consumed about 30 percent of the defense programs portion of NNSA’s budget. This leaves significant room for reprioritizing within a flat budget to achieve the transformation goals within the timeframe analyzed in the SPEIS. In addition, NNSA is implementing many related activities as part of transformation that are expected to generate savings that will offset some, or all, of the increases needed during the early years of transformation:*

- *Reductions in square footage throughout the complex of about 9 million square feet of space are proposed. This will reduce the maintenance*

portion of the budget significantly.

- *Improved contracting and business practices are expected to generate additional savings and permit workforce reductions that result in additional savings.*
- *With these measures and the efficiencies that result over the long term from the consolidation, there is likely to be little impact on other defense programs areas. The Preferred Alternative for plutonium is not the most costly alternative (TechSource 2007a).*

9.F COST-BENEFIT STUDY

Commentors stated concern about Complex Transformation cost-benefit studies and stated that:

- Simple raw data and cost savings can not be the only basis for a decision to move the Flight Test Operations out of the Tonopah Test Range.
- It is improper to look at cost-benefit analysis for just one portion of Complex Transformation. If this type of criteria is to be used, it should be used across the board and look at all costs and all benefits of all proposals.
- NNSA is incorrect in their cost-benefit analysis that relocation operations from TTR to WSMR and that it will not result in the cost savings that the analysis is representing.
- DOE should calculate the reduction in overhead costs if LLNL had no nuclear research but instead focused on green energy research.
- The United States is only considering the benefits to economic development, but should also consider the costs of possible weapons use.
- The amount of taxpayer money required to support Complex Transformation is excessive.
- A Cost-Benefit Study should be prepared prior to proceeding with this proposal.
- The SPEIS must compare the cost of total disarmament by 2030 to rebuilding the complex by 2030.
- The costs associated with closing plants could be large and it is requested additional information associated with these costs and with the efficiency of the existing plants vs. the new plants be provided.

Response: *NNSA has not made a decision as to the location of flight test operations or other alternatives considered in the SPEIS. The Preferred Alternative is described in Section 3.17 of Volume I of the SPEIS. Once the Complex Transformation SPEIS has been completed, the environmental impacts of the various flight test operations alternatives will be considered along with other cost, technical and risk analyses in deciding the location of future flight test operations. This decision, along with others, will be announced in a Record of Decision.*

In regard to calculating the reduction in overhead costs if LANL had no nuclear research, there is no alternative in which it does not maintain some level of nuclear research. Furthermore, this SPEIS is the document which is prepared to present to NNSA the environmental impacts of the proposed action and reasonable alternatives to that action. Costs and technical considerations are the focus of other studies. These studies are being prepared separately and will be considered as part of reaching any decisions in the Record of Decision.

As noted in comment-response 7.M.1, NNSA is responsible for maintaining the safety, security, and reliability of the United States' nuclear weapons stockpile. The Complex Transformation SPEIS analyzes the potential environmental impacts of reasonable alternatives to continue transformation of the nuclear weapons complex to one that is smaller, more responsive, efficient, and secure. Only the President can authorize the use of nuclear weapons. Accordingly, the use of nuclear weapons is not within the scope of this SPEIS. See comment-response 9.H for related discussion on funding to support Complex Transformation.

9.G **TIMELINE**

Commentors requested additional information related to the timeline for Complex Transformation and others questioned the timeframe for analysis. One commentor expressed concern that support for LLNL will require steady and long-term funding.

Response: *In general, programmatic NEPA documents seek to analyze the environmental effects of proposed actions for a particular program for the time period in which the impacts would occur. That is the case for the SPEIS, and was also the case for the 1996 SSM PEIS. Many programmatic decisions, e.g., a decision to construct a major new facility, such as a plutonium or uranium facility, could take as long as 20 years to implement of the time period evaluated in this SPEIS is consistent with the long lead times of programmatic activities involving nuclear weapons and facilities. Comments related to funding are noted, but are issues which will be decided by the Congress and are beyond the scope of the SPEIS. See also comment- responses 9.E and 9.E.1 for related discussion.*

9.H **TAXPAYER MONEY**

Comments were received regarding concern about the use of taxpayer money and opposition to:

- The funding of the maintenance and improvement of the nuclear weapons complex.
- The spending of taxpayer money until a new administration has issued its own Nuclear Posture Review.

- Funding Complex transformation at locations other than Y-12 when taxpayer dollars to support Y-12 had already been spent.
- Moving facilities/production capabilities from Y-12 to another site which would result in more unnecessary expense to the taxpayer.

Response: *As noted in comment-response 9.B.1, the budget necessary to support the stockpile is a matter determined by the Congress and approved by the President. Complex Transformation is NNSA's vision for the most effective means of fulfilling the missions assigned to it by the Congress and the President. The Constitution requires that decisions on prioritization of federal expenditures be established by the Congress.*

The Nuclear Posture Reviews do not establish requirements for NNSA. The basis for the requirements that NNSA uses to establish its programmatic requirements is a combination of the current PDD and the Nuclear Weapons Stockpile Plan, which establish the current stockpile weapon types and numbers; the Congressional direction contained in authorization and appropriation acts; as well as the judgment of NNSA in consultation with the DoD and the experts at NNSA's national laboratories. For additional information regarding the Nuclear Posture Review, please see comment-response 1.C.

NNSA appreciates the concern expressed by the commentors regarding retention of nuclear weapons work at Y-12; however, it should be noted that the budget used to support the nuclear weapons stockpile is determined by the Congress and is funded by the taxes paid by U.S. citizens from all regions of the United States.

9.I

COSTS NOT INCLUDED IN THE SPEIS

A commentor stated that although NNSA claims that the purpose and need for Complex Transformation is driven, in part, by considerations of cost, the Draft Complex Transformation SPEIS does not contain sufficient information to allow for objective consideration of the alternatives on this basis. The Draft Complex Transformation SPEIS lacks adequate information to allow the NNSA and the public to evaluate the cost-effectiveness of each of the alternatives under consideration. In addition, there is no data to support NNSA's assertions that the Preferred Alternatives would increase economic efficiency and thus serve the stated purpose and need for Complex Transformation. The Draft SPEIS should be revised to include such information in both raw and comparative form (as in charts or graphics).

Response: *The purpose and need for Complex transformation is partly driven by a need to operate the nuclear weapons complex in a cost-effective manner. NNSA has commissioned an independent business case analysis to provide cost information on Complex Transformation. NNSA will use this cost information, the analysis in the SPEIS, and other information to make decisions regarding*

transforming the complex. The independent business case analyses are available to the public on the Complex Transformation website: www.complextransformationspeis.com.

10.0 CANDIDATE SITES

Commentors expressed concern about the selection and limiting of the specific sites considered for the various alternatives and questioned the process used to determine the site alternatives.

Response: *Section 3.1 of Volume I of the SPEIS discusses the process that NNSA employed to identify reasonable alternatives for restructuring SNM facilities and R&D and testing facilities. For SNM facilities, site alternatives were identified based on the principle of consolidating SNM at fewer sites and locations within sites. For the R&D and testing facilities, NNSA was guided by the principle of improving operating efficiencies by consolidating, relocating, or eliminating facilities.*

10.A NOT USED

10.B LANL

Comments with specific reference to actions related to LANL were:

- DOE has an obligation to clean up and reclaim all contaminated property, soil, and equipment at LANL.
- Opposition to the expansion of plutonium pit production at LANL.
- Opposition to the retooling the LANL complex.
- LANL is inherently more attractive to terrorist attacks
- Concerns about the safety of activities conducted at LANL.
- Concerns about building nuclear weapons at LANL.
- Instead of building yet another weapon installation at Los Alamos the United States should restore the site to the peaceful grandeur that it had when it was first inhabited by the Anasazi.
- Los Alamos ranks among the wealthiest communities in the United States, and yet the state of New Mexico has ranked among the 10 poorest states for decades.
- LANL could be very useful for other purposes.
- LANL is too close to local population centers to safely continue plutonium pit production or storage.
- LANL should be redesigned to be a Distributed Center of Excellence for Nuclear Decontamination and Cleanup.
- Support for the proposal to make LANL the Center of Excellence for Nuclear Design and Engineering.
- Support for the Preferred Alternative because it validates that LANL will

- continue to be a national security laboratory.
- A limited production capacity for LANL is not incompatible with state of the art science.
- Appreciation for economic and community activities at LANL.
- Support for continued HE experiments and research at LANL.
- NNSA must examine closure of LANL because there is no need to maintain two nuclear weapon design laboratories.
- More than 60 percent of voters who voted in the previous New Mexico elections and are likely to vote in the next election have positive feelings for the work carried out at LANL.

Response: *These comments related to LANL are noted. This CRD includes specific responses to comments related to land use (comment-response 14.A), clean-up (comment-response 7.J), terrorism (comment-response 13), and other uses of LANL (comment-response 7.A.7, safety (comment response 7.F), environmental justice (comment-response 14.J), pit production (comment-response 5.C.1), and socioeconomics (comment-response 14.I)).*

10.B.1

Some commentors stated that LANL currently has 300 kilograms of plutonium missing from inventory records and that NNSA should account for where that plutonium has gone. One commentor stated that NNSA lacks competence even for a bean counting function and must take that into account in the SPEIS.

Response: *LANL materials control and accountability procedures are in compliance with DOE Orders. In a letter to the president of the Institute for Energy and Environmental Research dated February 28, 2006, NNSA's Administrator replied to allegations of the accounting discrepancy of plutonium at LANL (NNSA 2006). This apparent discrepancy is a result of the different tracking and reporting procedures for site security and waste management organizations. Comparison of the information contained in the two systems cannot be used to draw conclusions about the control and accountability for SNM.*

10.C

LLNL

Comments with specific reference to actions related to LLNL were:

- The impacts of the closure or transfer of Site 300 should be included in the SPEIS.
- When would LLNL Site 300 be closed?
- Opposition to the closing of LLNL.
- Opposition to any testing at LLNL.
- LLNL Site 300 is a redundant facility inappropriately located for such hazardous activities and all activities should cease and future efforts should focus on remediating its toxic legacy.

Response: *NNSA notes the comments supporting nuclear weapons missions at LLNL as well as those in opposition. Chapter 3 of Volume I of the SPEIS describes alternatives that could result in closure of all or portions of NNSA's Defense Program activities at Site 300 (e.g. Sections 3.8.2.1.2, 3.12.3, 3.8.2.1.5, and 3.11.1.1, and 3.12.3 of Volume I of the SPEIS). Section 3.1.6.3 states that if Site 300 were to close, 115 buildings containing approximately 340,000 square feet of floor space would be closed or transferred. This SPEIS does not identify future uses or users of facilities that may or may not be closed or transferred. Any such actions are at this time premature and would be more appropriately addressed if and when facilities become excess to the Nuclear Weapons Complex. In other words, any future proposals for the use of Site 300, should its closure result from actions taken pursuant to this SPEIS or otherwise, would be properly addressed under NEPA at the time such proposals are made. See also comment-responses 6.D.3 and 7.A.5 for related discussion.*

10.D NTS

Comments with specific reference to actions related to NTS were:

- Opposition to any facility at NTS because the land that the NTS resides on is actually owned by the Shoshone Nation.
- Using Nevada as a location for Complex Transformation is a bad idea. .
- Data collection at the DARHT, at LANL, is limited, so consolidation of hydrotesting facilities and the construction of a new CFF at NTS would be a good thing and offer better scientific assistance to the Complex

Response: *Information related to relocation of NNSA Flight Operations from Tonopah Test Range, including the question of Western Shoshone ownership of the land is included in comment-response 6.C.1 through 6.C.5.*

Comments related to the opposition of NTS for Complex Transformation are noted. With respect to the DARHT, a hydrotesting facility located at TA-15 at LANL, as compared to the CFF, a hydrotesting facility located at LLNL Site 300, the SPEIS assesses the environmental impacts of construction and operation of facilities as well as the D&D of retired facilities, for conducting hydrodynamic testing. Technical judgments regarding the usefulness of one facility in relation to another facility are beyond the scope of this SPEIS. Such technical judgments are the topic of other documents being prepared to assist NNSA in making the ultimate decisions. NNSA will consider such technical judgments along with the environmental impacts analyzed in this SPEIS prior to making decisions. Hydrotesting consolidation at NTS would be considered in the future.

10.D.1

A commentor stated that the Draft SPEIS fails to address the issue of authorized land uses at NTS and whether consolidated SNM facilities there would be consistent with the mission of the NTS as authorized in the existing land withdrawal legislation for the site.

Response: DOE does consult with the U.S. Department of the Interior regarding land withdrawals as provided in the April 15, 1997, settlement agreement in the case of *Nevada v. Pena*, CV-S-9400576-PMP-(RLH). That consultation process was initiated in 1997 and is continuing. See also comment-response section 14 for related discussion.

10.E TTR

A number of commentors expressed opposition to relocating Flight Test Operations from TTR and closing TTR. Some of these commentors stated that TTR has a direct beneficial impact on the local economy of Nye County. A number of commentors supported upgrading NNSA Flight Test Operations at TTR.

Response: NNSA has not made a decision as to the future location of flight test operations. Once the Complex SPEIS has been completed, the environmental impacts of the various flight test operations alternatives will be evaluated along with other cost, technical and risk analyses in reaching a decision as to the location of future flight test operations. This decision, along with other decisions will be announced in a Record of Decision.

The socioeconomic impact analysis (Section 5.15.4.2 of Volume II) has been revised to include data provided by Nye County (UN 2007). This will more accurately reflect potential impacts on Nye County of the various flight test alternatives. In addition, a modified alternative for maintaining Flight Test Operations at TTR, with a reduced staffing level, reduced footprint, and a renegotiated lease with the U.S. Air Force has been added to Section 3.10 of Volume I of the SPEIS, and the environmental impacts of this new alternative are presented in Section 5.15 of Volume II. Additional information regarding TTR may be found in comment-responses 6.C.1 through 6.C.6.

10.F PANTEX

10.F.1

A commentor stated that the neighbors of Pantex care about the issues of security, safety, environmental responsibility and integrity, and have lived with what Pantex has done. The commentor went on to state that the Pantex neighbors had put up with enough and did not need additional facilities and missions there.

Response: NNSA appreciates the support of the neighboring communities of Pantex and notes the opposition to additional facilities and missions at Pantex. NNSA also cares about security, safety, environmental responsibility, and integrity. NNSA seeks to improve its ability and performance in the areas of security, protection of worker and public health and safety, and protection of the environment.

10.F.2 A commentor states that NNSA is basing its approvals for current and future operations at the Pantex Plant on a previous environmental impact study that is out of date (i.e., Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapons Components (DOE/EIS-0225, November 1996) (Pantex SWEIS). The commentor goes on to state that the Pantex SWEIS does not reflect the current footprint of the operational area of the Plant, provide accurate boundaries of the Plant, allow for current access and adjacent land purchase activities underway by Pantex, and states that the existing facilities on-site are unaccounted for given that buildings have been decommissioned and demolished and others constructed. The commentor further stated that technologies have come into existence in the past approximately 13-years and the nature of security in a post-9/11 world has changed.

Response: *NNSA used the most recent information available in developing the Complex Transformation SPEIS. This included information updated by the Pantex Site Office and the management and operating contractor for this final SPEIS.*

10.G SNL/NM

A commentor expressed support and appreciation for SNL/NM.

Response: *NNSA notes this comment. See also comment-response section 15 for related discussion.*

10.G.1 The following specific comments related to SNL/NM were received:

- What is the level of wafer production at SNL/NM and the associated contamination?
- What will be the increase in explosive components testing and the release of toxic contaminants to air and water?
- Epidemiologic studies must be implemented along with air monitoring and a RCRA approved well monitoring system at Sandia to provide for knowledge of increased public exposure to contaminants in the air and water from increased activities at Sandia.
- Name each facility and describe what will be the increased level of radioactive and hazardous waste releases from each facility at Sandia that will be involved in the new Complex transformation?
- What risk to the public?
- Will the current Hazardous Waste Management Facility be able to handle the increased quantities of RCRA hazardous waste up from 53,123 Kilos and infrastructure related wastes of up to 175, 000 kilos per year?
- How much additional RCRA and radioactive waste will be generated above current levels by the Transformed Complex?"

Response: *The SPEIS evaluates specific alternatives and environmental impacts related to NNSA's nuclear weapons complex. The information requested by the commentor is more appropriate to the analysis contained in a site-wide EIS or a RCRA analysis. For more detail regarding SNL/NM facilities and activities and their impacts, the commentor is referred to the SNL/NM SWEIS (DOE 1999c) and the Final Supplement Analysis for the Final Site-Wide Environmental Impact Statement for Sandia National Laboratories, New Mexico (DOE 2006a). Section 3.2.6 of Volume I of this SPEIS provides a brief overview of existing missions at SNL/NM. The SNL/NM SWEIS and Supplement Analysis provide detailed descriptions of SNL missions and activities. There are no new missions proposed for SNL/NM under the Programmatic Alternatives in the Complex Transformation SPEIS. SNL/NM is considered in the Project-Specific Alternatives:*

- *Consolidation of Category I/II SNM at SNL/NM to other NNSA sites has been completed and is discussed in Section 3.7.1.4 of Volume I of this SPEIS.*
- *Current high explosive (HE) R&D facilities at SNL/NM are evaluated in Section 3.8.1.4 of Volume I (No Action) and the HE R&D alternatives associated with Complex Transformation are addressed in Section 3.8.2 of Volume I (HE R&D SPEIS Alternatives).*
- *SNL/NM was not considered for any changes to its tritium missions under Complex Transformation.*
- *Current Hydrotesting capabilities at SNL are addressed in Section 3.11.1.3 of Volume I of the SPEIS. Except for the No Action Alternative, SNL/NM is not considered under any of the Hydrotesting action alternatives.*
- *The existing major Environmental Test Facilities (ETF) at SNL/NM are described in Section 3.12.1.3 of Volume I of the SPEIS under No Action. Under the ETF action alternatives, SNL/NM is being considered for 1) closure in place of certain duplicative, outdated, and unused facilities, 2) for consolidation of ETF from other NNSA sites, and 3) for transferring its ETF-related facilities and work to the NTS.*
- *The final Project Specific Alternative that affects SNL/NM is the potential consolidation of SNL/California (CA) Weapons Support Functions to SNL/NM.*

The impacts of the HE R&D alternatives on SNL/NM are found in Section 5.13. Hydrodynamic facility impacts are addressed in Section 5.16. The impacts related to major ETFs are described in Section 5.17. Consolidation of SNL/CA Weapons Support Functions to SNL/NM is addressed in Section 5.18.2.

10.H SRS

A commentor expressed support for SRS as a candidate site.

Response: *NNSA notes this comment. See also comment-response section 15 for related discussion.*

10.H.1

A commentor stated that the storage of 22 metric tons of plutonium at the SRS K-Area is not appropriately analyzed for its potential environmental consequences. The commentor further stated: When will the plutonium be moved and how will it be utilized? To put this information in a footnote rather than full sized print is another evasion by NNSA. The option of consolidating all plutonium at one site without multiple transportation routes from LLNL should be considered.

Response: *In 2007, DOE prepared a Supplement Analysis (SA), which determined that the potential environmental impacts of consolidated storage at SRS of surplus, non-pit, weapons-usable plutonium from Hanford, LLNL and LANL would not be a significant change from potential environmental impacts of the alternatives analyzed in previous NEPA reviews, which included the impacts of transportation to and consolidated storage at the SRS. (DOE 2007b). Based on the analysis in the SA, NNSA determined that no additional NEPA review is required prior to transferring surplus non-pit weapons-usable plutonium materials from LLNL to SRS for consolidated storage. Nonetheless, for completeness, this SPEIS includes an analysis of the transportation risk associated with disposition of all surplus plutonium from LLNL to SRS.*

10.H.2

One commentor could not support construction of either the proposed DCE or CCE facilities at the Savannah River Site. The commentor stated: “The SRS has approximately 198,000 acres within its administrative boundaries. Only 12 percent or about 24,000 acres are used for nuclear processing purposes, while 9 percent or about 18,400 acres are in areas set aside for ecological research. Another 14,000 acres (7 percent), including the Lower Three Runs Creek and Savannah River swamp forests, are left undisturbed to limit movement of trace radioactive contaminants. The remaining area is actively managed to meet conservation and restoration objectives, to provide research and education opportunities and to generate revenue from the sale of forest products. These include pine and hardwood saw timber, pulpwood and pine straw. Additional major construction projects and associated facility operations could adversely affect the significant ecological, research, and educational values of SRS.”

Response: *The SRS Environmental Management System (EMS) reduces the impacts of site activities and increases operating efficiencies. The EMS (which includes the NEPA process) will ensure that appropriate best management practices and technologies would be utilized during the construction and operation of major new projects to prevent or mitigate significant environmental impacts (incremental or cumulative) to the human environment. In addition, studies of the effects of man’s use of the environment was the fundamental purpose of establishing the SRS as a National Environmental Research Park in*

1972; NNSA believes that, if approved, new facilities, constructed and operated using methods and environmental controls previously unavailable, would add to the value of and provide new opportunities for environmental research at SRS.

10.I OAK RIDGE – Y-12

Several commentors expressed their support for siting Complex Transformation facilities at Y-12. Commentors stated that Y-12 is well on its way to becoming a transformed Uranium Center of Excellence that will, in a timely manner, reach NNSA goals of smaller, safer, less expensive, more cost effective and secure uranium facilities. Commentors also stated that Y-12 has an outstanding past history and experience in the mission, and also has a trained and experienced workforce.

Response:

NNSA notes this comment. See also comment-response section 15 for related discussion.

11.0 REQUESTS FOR ADDITIONAL ANALYSIS

A commentor requested additional analysis regarding the long-lasting consequences of Complex Transformation.

Response: *NNSA has conducted a thorough assessment of the potential impacts of Complex Transformation in this SPEIS for the appropriate period. Impacts are assessed for both construction and operations. For operations, the SPEIS focuses on the steady-state impacts of operations. Those annual operational impacts are assumed to occur year-after-year. It should be noted that for the programmatic alternatives addressed in this SPEIS, the level of analysis may not be as specific as it would be for a site-specific analysis. Once decisions are made regarding programmatic alternatives, additional NEPA analyses may be prepared as necessary, using a site or facility level of detail. See also comment-response section 14 for related discussion.*

11.A ADDITIONAL ANALYSIS - GENERAL

Commentors stated that the SPEIS was deficient in its analysis and that:

- The Draft SPEIS lacks comprehensiveness and credibility.
- Additional analysis of safety and security, specifically in reference to disarmament, is required.
- Further analysis is required to determine if additional weapons are needed.
- An upgrade in nuclear weapons capability needs a more careful study.
- Additional analysis on the role of nuclear weapons as an instrument of security policy is needed.
- A justification as to why alternatives selected were superior to other

alternatives is needed.

- To evaluate the alternatives adequately, the maximum rates of plutonium processing waste must be estimated based on maximum rates of production and included in the Final analysis.
- The co-location of storage facilities for some or all Cat I and II SNM under international administrative control should be analyzed in the No Production Alternative.
- The Draft SPEIS lacks an analysis of moving flight testing operations comparative to an independent analysis on the same issue which found the option to retain the mission at TTR more economically beneficial than relocating the operations somewhere else.
- The SPEIS should recognize that the reason why flight testing should remain at TTR is because the operations have been conducted at TTR successfully and other sites do not have as much experience.
- The City of Española's review of the environmental and economic impacts from LANL should be included in LANL's ASER.
- The analysis omits the practical goal of providing a smaller site to store weapons and this should be considered to be a significant oversight for political reasons.

Response: *The Complex Transformation SPEIS is, in large part, a programmatic level analysis of potential environmental impacts of transforming the nation's nuclear weapons complex. It also evaluates a number of project level alternatives. NNSA has conducted a thorough assessment of the potential impacts of Complex Transformation in this SPEIS. Based on comments received on the Draft SPEIS and its own initiative, NNSA conducted additional analyses to ensure an adequate assessment of potential impacts in the SPEIS.*

The number of nuclear weapons in the U.S. stockpile and their role in national security are not matters that will be decided as part of Complex Transformation. Those are decisions made by the President and the Congress.

The waste management analyses used in the SPEIS assumed maximum rates of plutonium waste processing based on maximum component production rates.

The SPEIS addresses the reasonable alternatives for storage of Category I/II special nuclear material. For SNM at Pantex (see Section 3.7.3 of Volume I), NNSA has added an analysis of a smaller storage facility than the size analyzed in the Draft SPEIS. One of the difficulties in placing surplus nuclear materials under IAEA safeguards is that the facilities storing the surplus material are also the facilities storing national security materials and international inspection of these facilities would be inconsistent with national security. DOE has had facilities storing some surplus SNM under IAEA inspection during the 1990's. DOE has stated that it intends to apply IAEA safeguards to its facilities that store or manage surplus plutonium "as soon as practicable" (65 FR 1608, January 11, 2000). This SPEIS will not be used to inform decisions on the

construction of storage facilities for surplus plutonium or enriched uranium where IAEA safeguards applicability might be appropriate. More information on this issue may be found in comment-response I.P.

The socioeconomic impact analysis of the SPEIS (Section 5.15.4.2 of Volume II) has been revised to include data provided by Nye County (UN 2007). This will more accurately reflect potential impacts on Nye County of the various flight test alternatives.

The request to include the City of Española comments in LANL's Environmental Report, while it is outside the scope of this SPEIS, was passed on to DOE officials at LASO.

11.B NUCLEAR WEAPONS ACTIVITIES

Some commentors requested a comprehensive analysis and re-evaluation of the role of nuclear weapons.

Response: *The number of nuclear weapons in the U.S. stockpile and their role in national security are not matters that will be decided as part of Complex Transformation. Those are decisions made by the President and the Congress. See also comment-response section I for related discussions.*

11.C SPECIAL NUCLEAR MATERIAL

Some commentors requested additional analysis on consolidation of special nuclear material.

Response: *The SPEIS addresses the reasonable alternatives for consolidating SNM at fewer sites and locations within sites (see Sections 3.7 of Volume I and Sections 5.10, and 5.12 of Volume II of the SPEIS).*

11.D ENVIRONMENTAL ANALYSIS

A commentor stated that the environmental testing performed by the DOE is really testing of the weapons and the components to determine if they are safe yet accomplish their goals of destruction. Commentors requested a more

comprehensive environmental analysis. Specifically, commentors stated that the SPEIS should contain a thorough analysis of:

- the alternative's impacts to agriculture;
- the impact to the environment when operations requiring controlled burns are discontinued;
- the impacts of using a nuclear weapon;
- seismicity;
- the potential for wildfires; and
- radioactive contamination in the Sangre de Cristo Mountains.

Commentors suggested that a summary view chart with the potential environmental impacts, including information pertaining to radionuclides in the water supply be added to the SPEIS.

Response: *The commentor is correct in stating that environmental testing within the context of the nuclear weapons complex entails ascertaining the effects of the weapons' environment on the safety and reliability of the weapons. This activity, however, does not constitute nuclear testing in the sense that it does not entail a nuclear detonation. Such tests expose weapons and weapons components to harsh environmental conditions to ascertain performance used to assist in developing better safety, security and performance information.*

NNSA has conducted a thorough assessment of the potential impacts of Complex Transformation in this SPEIS for the appropriate period. Based on comments received on the Draft SPEIS and its own initiative, NNSA conducted additional analyses to ensure an adequate assessment of potential impacts in the Final SPEIS. It should be noted that for the programmatic alternatives addressed in this SPEIS, the level of analysis may not be as specific as it would be for a site-specific analysis. Once proposals are made based on decisions regarding the programmatic alternatives, additional NEPA analyses will be prepared as necessary, using a site or facility level of detail.

As noted in the response to comment 14.A.1, Complex Transformation would not result in the expansion beyond existing boundaries of any NNSA nuclear weapon facility. Since those NNSA sites are already non-agricultural lands (the Pantex site has agricultural lands on-site, however, no expansion into agricultural lands at that site are proposed), no agricultural lands would be removed from production. See comment-response section 14 for related discussion of potential effects on resources.

Only the President can authorize the use of nuclear weapons. Accordingly, the use of nuclear weapons is outside the scope of Complex Transformation, see comment-responses 11.E and 20 for related discussion.

Information related to seismicity at NNSA facilities appears in Volume I of the SPEIS in Sections 4.1.6 for LANL, 4.2.6 for LLNL, 4.3.6 for the NTS, 4.4.6 for TTR, 4.5.6 for Pantex, 4.6.6 for SNL/NM, 4.7.6 for White Sands Missile Range (an alternative location for Flight Testing), 4.8.6 for Savannah River Site, and 4.9.6 for Y-12. In addition, please see comment-responses 14.F.1, 14.F.2, and 14.F.4 for more information related to seismic risks at NNSA facilities.

There is a risk for wildfires at most NNSA nuclear weapons sites. The actual occurrence of a wildfire is unpredictable and the impacts depend on a number of factors, including location, amount and type of fuel, area burned, wind speed and direction, etc. Pursuant to DOE Order 151.1C, Comprehensive Emergency Management System, NNSA sites conduct regular fire assessments to determine the potential for such a fire and identify mitigation measures to reduce the

potential for a fire. NNSA sites must have trained emergency response personnel and equipment to deal with potential emergency situations and have agreements with off-site emergency response organizations for mutual support.

With respect to contamination in the Sangre de Cristo Mountains, these levels were caused by the shape of the terrain and fallout. For the Trampas Lake data, the conditions are unusual in two respects: the high altitude; and the shape of the terrain. These conditions contribute to high concentrations of cesium-137, strontium-90, and plutonium-239, as follows.

Global fallout is brought to earth by rain and snowfall and, therefore, is concentrated on mountains where the precipitation is greater. Furthermore, snowfall is more effective than rainfall in holding onto radioactive dust material. Accordingly, the concentrations at higher altitudes are expected to be higher than lower altitudes. For example, cesium-137 data are reported in reference 1 for alpine sites (elevation 11,200 feet) and mountain sites (10,800 feet) in Colorado. The average cesium-137 concentration was 7 pCi/g for 38 alpine sites, and 4 pCi/g for 16 mountain sites. The highest concentration was 20 pCi/g at an Alpine site. These data show that the concentration of 5 pCi/g at Trampas Lake (11,415 feet) is not unusual at these high altitudes. The shape of the terrain further concentrates global fallout. Rain and snow fall on the relatively impermeable slopes surrounding the lake and wash the radionuclides into the basin surrounding the lake. Trampas Lake is in a basin surrounded by relatively impermeable terrain, so the concentration is expected to be higher where it accumulates than on the surrounding slopes where runoff occurs. The radionuclides in global fallout, ¹³⁷Cs, ⁹⁰Sr, and ²³⁹Pu, are all expected to be elevated at Trampas Lake. In summary, the Trampas Lake data agree with expectations for global fallout at this location and should not be compared with levels near LANL.

Current onsite and off-site radiological contamination related to NNSA sites is addressed in Chapter 4 of the SPEIS. Health impacts associated with potential Complex Transformation facilities and activities are addressed in Chapter 5.

Tables 3.16-1 through 3.16-8 in the SPEIS provide summary impacts for Complex Transformation.

11.E USE OF NUCLEAR WEAPONS

Commentors objected to the use of nuclear weapons.

Response: *Only the President can authorize the use of nuclear weapons. Use of nuclear weapons is not an action under the purview of NNSA and therefore not within the scope of this SPEIS. See comment-response 20 for related discussion.*

12.0 KANSAS CITY PLANT

The following comments were received related to the Kansas City Plant (KCP):

- KCP is an integral part of the nuclear weapons complex and therefore alternatives for its consolidation and modernization should be considered in the SPEIS rather than in a separate environmental assessment.
- By excluding alternatives involving activities currently performed at KCP, commentors stated that NNSA was not accurately representing the impacts of the entire nuclear weapons complex.
- Decisions NNSA may make regarding other activities in the nuclear weapons complex (such as the production levels for plutonium pits) could have a direct effect on KCP's operations.
- Excluding KCP from the SPEIS constitutes improper segmentation under NEPA, pointing out that the 1996 SSM PEIS, to which the SPEIS is a supplement, considered alternatives for KCP operations.
- The refusal of NNSA to include the Sandia consolidation option within the scope of the present analysis is an arbitrary and capricious action that has no legal standing under NEPA and is clearly motivated by the desire to protect NNSA's scheme to shift its KCP operations to a new privately owned, third-party financed, GAO procured manufacturing facility in the Kansas City area without consideration of consolidation alternatives.
- One commentor attached comments that were provided on the *Environmental Assessment for Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the National Nuclear Security Administration's Kansas City Plant* (DOE/EA 1592).

Response: *This SPEIS evaluates programmatic alternatives for restructuring facilities that use or store special nuclear materials as defined in 11aa. (42 U.S.C. 2014aa) of the Atomic Energy Act of 1954, (42 U.S.C. 2210 et seq.), e.g. plutonium or enriched uranium. It also analyzes project-specific alternatives for restructuring research, development and testing facilities (these facilities do not use or contain significant quantities of special nuclear materials; most do not contain any such materials). As the SPEIS states, the decisions NNSA will make regarding these project-specific alternatives are independent of those it will make regarding programmatic alternatives for restructuring nuclear facilities.*

The KCP was not included in the SPEIS because NNSA concluded that decisions regarding the consolidation and modernization of KCP's activities (the production and procurement of electrical and mechanical non-nuclear components) would not affect or limit the programmatic or project-specific alternatives analyzed in the SPEIS, or the decisions NNSA makes regarding these alternatives. Neither the Environmental Assessment for Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the National Security Administration's Kansas City Plant (GSA 2008) (KCP) (KCP EA) nor the SPEIS evaluate programmatic alternatives for NNSA's non-nuclear production activities (which include, but are far broader than, the activities performed at the KCP). In other words, NNSA is not considering programmatic alternatives for its non-nuclear production activities

and the facilities it uses for them. The proposed action in the KCP EA is limited to the activities currently conducted at the KCP the production of electrical and mechanical non-nuclear components.

One reason NNSA is not proposing broad restructuring actions for non-nuclear activities is because DOE has been consolidating these activities for the past 15 years, and evaluated programmatic and project-specific alternatives for these activities in two separate NEPA analyses in 1993 and 1996. These prior NEPA analyses, an EA in 1993 and the SSM PEIS in 1996 (which is the predecessor of the current SPEIS), are described in greater detail in the comment-response 4 in the KCP EA. The 1993 EA examined broad programmatic alternatives for consolidating non-nuclear activities (then performed at eight sites), while the 1996 PEIS only looked at alternatives regarding the activities performed at the KCP. That is, the scope of the 1996 PEIS as to non-nuclear activities was much narrower than the 1993 EA because the Department by that time had started to consolidate non-nuclear activities as a result of programmatic decisions based on the 1993 EA.

Because decisions regarding modernization and consolidation of KCP's activities will not have an impact on programmatic decisions regarding nuclear facilities that will be made on the basis of the SPEIS, and because NNSA needed to make decisions regarding the activities performed at the KCP before it would be able to make any decisions based on the SPEIS, NNSA decided to perform a separate NEPA analysis for KCP's non-nuclear production activities. Under the Council of Environmental Quality's NEPA regulations, federal agencies are not required to analyze a project "such as the consolidation and modernization of KCP's activities" that bears some relationship to a larger undertaking "such as the transformation of NNSA's nuclear facilities" in the same NEPA document unless they are "connected actions" as defined in 40 CFR 1508.25(a)(1). Actions are considered connected only if they:

- (i) Automatically trigger other actions which require environmental impact statements.*
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.*
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.*

The consolidation and modernization of KCP's activities meet none of these criteria when compared to the programmatic and project-specific alternatives analyzed in the SPEIS. Consolidation of KCP's non-nuclear production and procurement work does not automatically trigger changes in NNSA's nuclear facilities, or changes regarding any of the project-specific alternatives. NNSA will consolidate and modernize KCP's activities regardless of whether it implements any of the alternatives in the SPEIS. And, decisions NNSA may make regarding KCP's work do not depend on transformation of other aspects

of the nuclear weapons complex for their justification. Accordingly, NNSA's determination to proceed with a separate EA for KCP's activities does not constitute impermissible segmentation of a NEPA analysis because proceeding did not have a direct and substantial probability of influencing decisions on the consolidation of NNSA's nuclear activities or the weapons complex as a whole, or decisions regarding the project-specific alternatives. That is, consolidating and modernizing activities now performed at the KCP have independent utility and significance in relationship to the alternatives in the SPEIS and decisions that NNSA may make regarding those programmatic and project-specific alternatives.

With respect to comments submitted on the KCP EA, the commentor is directed to that EA for a response to those comments.

13.0 SECURITY, SABOTAGE AND TERRORISM - GENERAL

13.A Commentors expressed concerns regarding terrorism and sabotage, stating:

- The EIS should consider the increased threat of other countries getting and using nuclear weapons as a direct result of our resuming pit production.
- The EIS must compare the environmental benefits of reducing the size of the U.S. nuclear arsenal with the risks of manufacturing and using nuclear weapons, both by the U.S. and other countries which seek to terrorize or attack the U.S. because of our nuclear posture
- The EIS must analyze the environmental impacts and security risks of a terrorist attack on a plutonium or highly enriched uranium (HEU) processing facility at any of the proposed sites.
- The costs of increased security must be considered
- There is concern regarding Complex Transformation affecting national security policy and it's leading to increased terrorist activities at NNSA facilities. Another commentor added that this is especially troubling since terrorists are elusive and typically work in small groups
- If LLNL is shutdown, unemployed personnel would be forced into a financial hardship which could entice them to offer for sale knowledge gained through their former employment which could undermine U.S. security.
- Nuclear technology is vulnerable to terrorism.
- Until the time comes, we must live with our weapons as responsibly as quietly as we can.
- The proposed facilities will make us targets rather than making us safer.
- Complex Transformation will substantially reduce terrorist threats against the United States.
- Consolidation of the national labs would make them more vulnerable to terrorist attacks.
- Security at Y-12 could be lessened as a result of Complex

Transformation.

- The possession of nuclear weapons makes our country more secure and nuclear weapons serve as part of a defense shield.
- Terrorists would target nuclear material shipments.
- The security of Los Alamos and Livermore National Laboratories, including threats from terrorist attacks could be affected by Complex Transformation.
- It is imperative that the United States appropriately handle the issue of dismantling weapons while maintaining a viable deterrent through renovating the current stockpile without diminishing the credibility of the dismantlement process.
- TTR has been recognized as one of the most secure NNSA sites and the closing of TTR would be a detriment to national security. This fact should be included/noted in the analysis.
- LANL can meet the nation's security needs.
- The number one threat that we all are dealing with is nuclear terrorism.

Response: *Complex Transformation seeks to change the existing nuclear weapons complex in order to improve its efficiency and effectiveness in ensuring the safety and reliability of the Nation's nuclear weapons stockpile. Activities that are currently taking place in the complex, including production, would by and large continue under transformation; however, the location of some activities may change and the intensity of some activities may decrease or increase at some facilities. NNSA provides a comprehensive assessment of potential environmental impacts of the alternatives considered. Use of nuclear weapons by the United States and any other country or group is not within the scope of Complex Transformation. The potential environmental impacts of an intentional destructive act, such as terrorism or sabotage, are addressed in a classified appendix to this SPEIS. NNSA prepared business case analyses of the various alternatives, which will be considered in making decisions, along with information from the SPEIS and other sources. The potential for a disgruntled employee to use his or her knowledge against the United States is outside the scope of this SPEIS, however, the impacts that might result are considered. See also comment-response sections 1 and 6 for related discussion.*

13.A.1

The following additional comments were received related to terrorism:

- Nuclear weapons do not provide deterrence against the current threats in the world;
- Nuclear weapons did not prevent the events of 9/11 and will not prevent future terrorist attacks.
- Possession of nuclear weapons makes our country less secure and the end of the Cold War has not meaningfully reduced the threat.
- Complex Transformation will make the United States an even bigger target for terrorist activities because the United States will be seen as a

key player in developing nuclear weapons.

- Complex Transformation will goad other countries into pursuit of nuclear weapons.
- The current system of alert is an accident waiting to happen.
- Nuclear weapons undermine international security, perpetuating violence throughout our cultures, and crippling nuclear disarmament efforts.
- Nuclear weapons are required to maintain a credible defense.
- Rogue states do not care whether the United States has nuclear weapons to counteract their actions or not.
- True security comes from renewable energy and learning how to live with others.

Response: *Nuclear weapons are not meant to serve as the nation's only line of defense. They are one of several types of weapons available to the President and the DoD for use against varying types of threats. Terrorist threats are real and require new strategies but other, persistent threats, which have been in existence for many years continue and at the present time, still require the maintenance of a safe, secure and operable nuclear weapons arsenal.*

13.B

EVALUATION OF SABOTAGE AND TERRORISM

13.B.1

Commentors stated that the presence of nuclear weapon activities at NNSA's sites would make those sites and the surrounding populations vulnerable to a terrorist attack or the acts of disgruntled employees. Commentors stated that the impacts of terrorist attacks be included in the SPEIS and that an unclassified summary of the classified appendix for intentional destructive acts must be released, asserting that a failure to do so circumvents two court decisions and DOE guidance. Another commentor stated this SPEIS fails to prioritize safety and security by ignoring terrorist attacks and considering the environmental impacts.

Response: *Regarding a terrorist threat, NNSA gives high priority to the safety and security of all its facilities. Security and potential acts of sabotage are integral considerations in the designs and operating procedures for NNSA sites. The existing facilities at those sites were designed to protect against attacks by outsiders and sabotage by disgruntled employees or other insiders. NNSA would construct new facilities in a similar manner, incorporating modern design features that provide even more robust protection against intentional destructive acts. NNSA considers the threat of terrorist attack to be real and has an established safeguards and security process it undertakes to assess facility vulnerabilities to various threats, including those from intentional destructive acts. NNSA does not agree that the proposed actions would increase the threat of terrorism. In fact, reducing the risk of a successful terrorist attack is one of the purposes of Complex Transformation. New facilities and the consolidation of special nuclear materials at fewer sites would provide a greater degree of security at a lower cost.*

The classified appendix to this Complex Transformation SPEIS addresses the environmental impacts that would be expected to occur in the event that a credible terrorist attack were successful at specific current and proposed facilities. The appendix is classified both because the scenarios considered contain classified information and because there is a risk that the discussion presented in the appendix of these scenarios and their potential outcomes could be exploited by terrorists or others contemplating harmful acts. Therefore, the SPEIS can provide only limited information about these acts and their potential impacts. Information about this classified appendix is found in Section 3.16.6 of the SPEIS.

13.C and 13.C.1

EXISTING SECURITY

Commentors stated that there were two recent very serious failures by the DoD, and therefore improvement in operations should be focused on instead of new weapons (which is essentially what NNSA still seeks when it proposes to replace the conventional high explosives of some weapons types with insensitive high explosives).

Response: *Although NNSA participates with the military services in Nuclear Weapons System Safety Group studies of the adequacy of military service operational procedures for nuclear weapons, it does not direct DoD nuclear weapons safety or security. In general, DoD is responsible for the physical security of nuclear weapons in its custody, while NNSA is responsible for the internal weapon features that contribute to nuclear weapons security. NNSA focuses considerable resources on the development of new approaches and technologies to improve nuclear weapons safety and security during all aspects of nuclear weapons logistical operations. When new approaches or technologies show promise to improve nuclear weapons safety or security while the weapons are in DoD custody, these approaches and technologies are shared with the appropriate military service through established coordination processes. Also see comment-response 13.E.3.*

13.D

INTENTIONAL DESTRUCTIVE ACTS APPENDIX

13.D.1

A commentor stated: “The draft SPEIS merely lists the NNSA sites for which terrorism impacts are considered in a classified appendix. Worse, the list in the Executive Summary of facilities for which terrorism is allegedly considered (at page S-64) does not match the list of facilities that is contained in the body of the draft SPEIS (at page B-18). And, there is no way to tell which list of facilities is the correct one. Inadequate attention to security and terrorism vulnerabilities at Livermore Lab (in what should be both classified and unclassified analyses) may have led to proposals in the draft SPEIS (including in the Preferred Alternative) that could have a catastrophic impact on Livermore Lab workers and the surrounding populations.”

Response: *The commentor is correct as to the discrepancies in the two lists. The sites identified as being included in the analysis discussed in the classified appendix on Intentional Destructive Acts on page S-64 of the Summary and on page B-18 are slightly different in that LLNL is included on page S-64 and omitted on page B-18. This has been corrected in the Final SPEIS. The sites considered in the classified appendix are: NTS, LANL, LLNL, Pantex, SRS and Y-12.*

The classified appendix on Intentional Destructive Acts that NNSA prepared for this Complex Transformation SPEIS does not analyze the adequacy of security at NNSA sites or security vulnerabilities at NNSA facilities. These subjects are beyond the scope for a NEPA analysis; however, they are an important aspect of NNSA's ongoing security program.

This SPEIS contains a classified appendix that analyzes intentional destructive acts, which could result in impacts on LLNL workers and surrounding populations that are as or more severe than accident scenarios analyzed in Chapter 5 of the SPEIS. This is also true for the other locations considered in the intentional destructive acts analysis.

NNSA devotes considerable resources to understanding and preventing terrorism in the nuclear weapons complex. DOE Orders 470.3A and 470.4, describe activities conducted under the Safeguards and Security Program aimed at preventing unauthorized access, theft, diversion or sabotage (including unauthorized detonation or destruction) of nuclear weapons, nuclear weapons components, and SNM. In accordance with the requirements set forth in these Orders, NNSA conducts vulnerability assessments and risk analyses to evaluate the effectiveness of existing safeguards in reducing the likelihood of terrorist acts, such as those analyzed in the classified appendix, of being successful and assisting in the development of new safeguards to further reduce these risks.

13.E COMMAND AND CONTROL

13.E.1 One commentor stated that NNSA has failed in the SPEIS to consider its own incompetence to manage the Complex changes in preventing security breaches that could allow nuclear secrets to fall into enemy hands or provide sensitive information about its employees that could provide further defeat of security. Another commentor said that the SPEIS must consider Command and Control breakdowns against a lack of safeguards for U.S. politicians or military officials illegally ordering use of nuclear weapons against foreign nations and/or against segments of the U.S. population.

Response: *NNSA has the responsibility for maintaining the safety, security, and reliability of the United States' nuclear weapons stockpile. The Complex Transformation SPEIS analyzes the potential environmental impacts of reasonable alternatives to continue transformation of the nuclear weapons complex to one that is smaller, more responsive, efficient, and secure in order to*

meet national security requirements. A classified appendix to this SPEIS has been prepared that evaluates the potential impacts of intentional destructive acts. Substantive details of weapons security, weapons safing devices, security countermeasures, and potential impacts, although well thought out and planned for, are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. Additional information on this classified appendix may be found in Section 3.16.6 of Volume 1 of the SPEIS.

13.E.2

One commentor asked what would be the environmental and human health effects of a direct unauthorized attack or crash by a maximally armed fighter airplane with a rogue pilot from Kirtland Air Force Base or a large commercial airliner upon the nuclear weapons stockpile maintained at Kirtland Air Force Base or any and all other critical facilities at Sandia or other facilities within the Complex?

Response: *The environmental and human health effects of civilian and military airplane crash scenarios would be largely the same whether the crash occurred intentionally or accidentally. Airplane crash scenarios for critical facilities within the NNSA's nuclear weapons complex are described and analyzed as part of the Environmental Effects discussions of the various Environmental Impact Statements and SWEISs prepared for these facilities. With respect to SNL/NM, in particular, the environmental and human health effects that might be expected to result in the event of an airplane crash are discussed in the SNL/NM SWEIS (DOE 1999c), and in the Final SNL/NM SWEIS SA (DOE 2006a). Both of these documents are publicly available on DOE's NEPA website: <http://www.gc.energy.gov/NEPA>. Additionally, airplane crash scenarios for critical facilities within NNSA's nuclear weapons Complex were examined for the SSM PEIS (DOE 1996d), and also for the present SPEIS (Chapter 5 and Appendix C).*

The postulated rogue pilot scenario has an extremely low degree of credibility because, as a general case, fighter aircraft are not routinely flown over the continental United States in a maximally armed configuration. Thus it is not generally considered within NEPA analyses. To the extent nuclear weapons in the custody of the DoD might be located at a DoD location, potential impacts of an aircraft crash or terrorist attack on those weapons would be outside the scope of this SPEIS.

13.E.3

One commentor stated that NNSA failed to consider the environmental consequences of the inability to maintain the necessary control of domestic or foreign nuclear weapons. The commentor cited an incident at a DoD facility where four secret nuclear missile parts were mistakenly sent to Taiwan, an error that went unnoticed for more than 18 months.

Response: *The shipment of "parts" not owned or controlled by NNSA is beyond the scope of this SPEIS. DoD conducted an investigation of the referenced*

incident. The leader of the DoD Investigation into the Barksdale/Minot incidents was Admiral Kirkland H. Donald, Director of Naval Propulsion, the most senior military leader of the NNSA Naval Reactor Program. The two month investigation was limited to the Department of Defense; therefore, it did not make any NNSA specific recommendations. NNSA has reviewed the investigation and evaluated the "Lessons Learned" for possible modifications to NNSA procedures where they may be applicable. For more information related to this comment, see comment- response 13. C. 1

13.E.4 A commentor expressed concern that nuclear weapons are not treated with the proper care as evidenced by the recent incident of several warheads being accidentally flown by the Air Force.

Response: *The safety and security of nuclear weapons in the custody of DoD is the responsibility of DoD and is outside the scope of this SPEIS. However, NNSA is concerned with the safety and security of nuclear weapons and goes to great lengths to minimize the risk of accidents involving nuclear weapons under its control. Through its Office of Emergency Operations, NNSA ensures that capabilities are in place to respond to any NNSA and Department of Energy facility emergency. It is also the nation's premier responder to any nuclear or radiological incident within the United States or abroad and provides operational planning and training to counter both domestic and international nuclear terrorism. NNSA conducts oversight of nuclear weapons operations and continually seeks to improve the safety of those operations.*

14.0 RESOURCES

Some commentors expressed concern about the environmental impacts and hazards created by the development of new nuclear weapons.

Response: *Development of new nuclear weapons is not part of Complex Transformation. NNSA conducted a thorough assessment of the potential impacts of Complex Transformation in this SPEIS. Based on comments received on the Draft SPEIS and its own initiative, NNSA conducted additional analyses to ensure an adequate assessment of potential impacts in the Final SPEIS.*

**14.A and
14.A.1 LAND USE**

Commentor expressed concern about the land use surrounding LANL and stated that:

- There was support for continued use of land for food and not cash crops.
- The SPEIS must analyze the impacts to farmlands in Northern New Mexico.
- The SPEIS claim that there are no prime farmlands in the vicinity of LANL is wrong. Before the Atomic Energy Commission arrived on the

Pajarito Plateau in 1943, all this land was prime farmland.

- LANL is located within the food basket of Northern New Mexico.
- NNSA has not analyzed the additional amount of water resources that it will use for future Complex related activities at LANL nor the diversion from, and/or contamination of, the water for agricultural activities into the future.

Response: *The Farmland Protection Policy Act defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage (7 U.S.C. §4201(c)(1)(A)). NNSA has used these definitions in the SPEIS. Section 4201(b) provides: “The purpose of this chapter is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.”*

Complex Transformation would not result in the expansion beyond LANL’s existing boundary. Since those lands within the LANL boundary are already non-agricultural lands, no prime farmland at LANL would be converted to any other use by implementation of any of the proposed actions or alternatives in Complex Transformation.

14.A.2 Some commentors asked whether there is any intent to return to the San Ildefonso Pueblo the land taken from them over the years and whether land transfer impacts were evaluated in the SPEIS and opportunities for additional land transfer identified.

Response: *LANL’s conveyances of land to Los Alamos County and to the Department of the Interior in trust for the Pueblo of San Ildefonso (under Public Law 105-119, Section 632, 42 USC 2391) are addressed in Chapter 4, Section 4.1.1, of the LANL SWEIS. Should the conveyance of additional tracts not previously analyzed be proposed, the action would be subject to future NEPA analysis. Parcels transferred to these entities are remediated to protect human health in light of the anticipated use of the land. The 2007 Defense Authorization Act provides an additional 5 years to complete the conveyance and transfer of land to Los Alamos County and the Department of Interior. This legislation extends the completion date through November 2012.*

14.A.3 Some commentors were concerned that land outside Indian reservation

boundaries may be damaged by testing and radiation dispersal at NTS. Commentors also expressed concern in regard to potential impacts to sustainable tribal economic development, future economic development opportunities, reservation expansion contemplated by Article VII of the *Treaty of Ruby Valley*, grazing rights from accidental radioactive release, and impacts on tribal self-governance that might result from migration of reservation population away from potential radioactive releases resulting in a lower population base to justify acquiring required services.

Response: *There are no activities proposed under Complex Transformation that would result in dispersal of radiation outside the boundaries of the NTS. NNSA monitors air both onsite and in the region surrounding the NTS. Since the cessation of nuclear testing in 1992, there has been no indication of radioactive dispersal from the NTS to offsite areas in excess of standards established by the U.S. Environmental Protection Agency (40 CFR Part 61 Subpart H). Therefore, no impacts to the tribal economic development are expected.*

14.A.4 A commentor was concerned that land within the NTS may be removed from use and access as a result of NNSA occupancy or NNSA may impose access restrictions at the NTS would result in impact to the extant American Indian existing cultural relationship to land.

Response: *NNSA acknowledges that access to the lands of the NTS is restricted; only authorized individuals may enter the site. NNSA has for many years extended to American Indians with a cultural affinity to the NTS, the opportunity to visit culturally important areas on the NTS, provided those visits do not interfere with NTS activities and the participants are appropriately cleared, badged, or escorted.*

14.A.5 Some commentors were concerned with potential damage that could be caused by radiation exposure to resources used by tribal members such as wood, grasses, piñon nuts, and plants used for food and medicinal uses.

Response: *DOE Order 5400.5, Radiation Protection of the Public and the Environment, requires that all DOE sites monitor radioactivity in the environment to ensure that the public does not receive a radiological dose greater than 100 millirems per year (mrem/yr) from all pathways of exposure, including the ingestion of contaminated plants and animals. In compliance with this Order, NNSA annually samples game animals and plants from sites on the NTS to estimate potential doses to humans (i.e., the public), measure the potential for radionuclide transfer through the food chain, and determine if NTS plants and animals themselves are exposed to radiation levels harmful to their populations. The doses are considered potential because hunting and gathering plant material (i.e., piñon nuts and wolf berries) are not authorized on the NTS. The most recent results from this sampling are that the highest estimated*

committed effective dose equivalent from consuming 20 jackrabbits was 0.12 mrem, which is only 0.12 percent of the annual dose limit for members of the public (Wills 2007). This hypothetical dose is less than one-fourth of the CEDE that would be received during a one-hour airplane flight at 39,000 feet, which is estimated as 0.5 mrem.

14.B NOT USED

14.C SITE INFRASTRUCTURE

A commentor expressed concern that the about air quality and noise impacts at the NNSA sites resulting from Complex Transformation could be excessive.

Response: *Impacts to air quality are addressed in Sections 5.1.4 for LANL, 5.3.4 for NTS, 5.5.4 for Pantex, 5.8.4 for Savannah River, and 5.9.4 for Y12 in Volume II of the SPEIS. In addition, see comment-response 14.D for other information on air quality.*

14.D AIR QUALITY

Commentors expressed concern about the air quality as a result of Complex Transformation and are concerned that:

- Open-air bomb tests (open detonation) and their impact on Air Quality and Noise should be stopped all together and not just transferred to another community.
- The NNSA is exploding depleted uranium into our lungs.
- NNSA is spreading radiation through the air.
- At a higher level of pit production, LANL could increase airborne pollutants by 28 percent.

Response: *Radiological air emissions are addressed in the Air and Noise Sections of Chapters 4 and 5 of Volume II and Appendix C of the SPEIS. Additional information of radiological air emissions is included in comment-response 14.D.1 and 14.D.4. Additional information regarding open burning and open detonation is in comment-responses 14.D.2 and 14.D.3.*

14.D.1 Commentors are concerned about Complex Transformation and its potential effect on the dispersal of radioactive material through the air. Commentors are specifically concerned that:

- Radiological air emissions must be accurately addressed.
- The LANL radiological air-sampling network (referred to as AIRNET), which measures the environmental levels of airborne radionuclides, such as plutonium, americium, uranium, tritium, and activation products that could be released from LANL operations, are routinely turned off due to

- lack of funding and other reasons.
- Percentages of radionuclides released and a comparison of those percentages to the activation products produced by the Los Alamos Neutron Science Center (LANSCE) should be released to the public.
- LANL has dangerous and hazardous air releases including intentional releases of tritium gas out the back door to avoid paperwork and monitoring alerts.

Response: *All LANL operations, regardless of when they began, comply with the applicable state (New Mexico Air Quality Control Act) and Federal (Clean Air Act, Toxic Substances Control Act) laws and regulations and have valid permits, as described in Chapter 10 of the SPEIS. The LANL contractor complies with its Clean Air Act, Title V, operating permit, including requirements for monitoring air pollutant emissions from sources at LANL and associated recordkeeping. Current air sampling programs at LANL include ambient non-radiological air monitoring, an ambient radiological air sampling network called AIRNET, and stack sampling for radionuclides, as described in Chapter 4, Section 4.1.4.1.3. NNSA believes that its air sampling network operates in compliance with all applicable requirements and is not “routinely turned off” due to lack of funding. LANL continually evaluates its air sampling programs and monitors downwind communities.*

The AIRNET samplers are LANL’s largest sampling network. This network currently includes about 57 samplers located on LANL property, around the perimeter of the laboratory in Los Alamos County, and in more distant northern New Mexico communities such as San Ildefonso Pueblo, Española, Santa Fe, Jemez Pueblo, El Rancho and Picuris Pueblo. The AIRNET particulate matter samples are analyzed for gross alpha and gross beta radioactivity, plutonium-238, plutonium-239, americium-241, uranium-234, 235, 238 as well as gamma emitting isotopes including arsenic-73 and 74, beryllium-7, cadmium-109, cobalt-60, cesium-134 and 137, manganese-54, sodium-22, rubidium-83 and 86, ruthenium-103, zinc-65 and lead-210. Samples from some sampling locations are also analyzed for beryllium, aluminum, and calcium. Other radionuclide and elemental analyses are conducted on an as needed basis. Water vapor is also collected at AIRNET samplers and analyzed for tritium.

Contamination from LANL has been found at only a few off-site locations within Los Alamos County. These locations continue to be monitored. Tritium, depleted uranium, americium, and plutonium have been measured at off-site sampler locations within several miles of the LANL boundary. Virtually all off-site detections are less than one percent of the EPA public exposure standard, with the highest concentrations less than five percent. This network has been independently audited multiple times over the past decade, including audits overseen by the Concerned Citizens for Nuclear Safety. It should also be noted that AIRNET sampling has been approved by the EPA to measure diffuse sources of radionuclides at LANL.

Finally, Los Alamos has conducted a variety of special air monitoring studies to address toxic and hazardous air contaminants in the ambient air. All of these studies indicate that the concentrations of non-radioactive air contaminants are at background levels and comparable to concentration levels at other rural locations in the United States.

LANSCCE does have the highest potential for radionuclide air emissions at the site. If necessary, operational controls at LANSCCE would limit the dose to the maximally exposed offsite individual from air emissions to 7.5 mrem per year to ensure compliance with the 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants) limit of 10 mrem per year.

14.D.2

Commentors stated that NNSA must stop all open burning and open detonation, which generate air emissions. The Draft SPEIS must consider the alternative of eliminating all such areas because of the hazard to the public and the air pollution created. The public cannot do open burning of trash, and NNSA should not be allowed to do open burning of hazardous, explosive, and radioactive materials. NNSA must monitor and implement comprehensive sampling programs at all open burning and open detonation sites and for all activities using high explosives and depleted uranium until such sites are inactive and thoroughly remediated. NNSA must expand air monitoring in downwind communities and should no longer hide under the grandfather clause for air emissions from its old facilities at LANL.

Response: *To conduct its missions, NNSA must conduct a number of activities that provide confidence in the nation's stockpile and enable NNSA to respond to global threats. One of the many activities required is research and development in high explosives (HE). These activities, conducted at a number of sites including Los Alamos (LANL), Sandia (SNL) and Livermore (LLNL), are thoroughly monitored. Inactive HE firing sites are remediated, as appropriate.*

NNSA is actively investigating the use of alternative methods to open burn (OB) and open detonation (OD) in support of its R&D programs. Los Alamos, for example, conducts both OB and OD to deal with detonation of energetic materials including high explosives (HE). OB activities are conducted to mitigate explosives hazards associated with HE waste. No radioactive material is burned. Generally, the types of waste treated by burning include: insensitive types of excess bulk HE, wet HE machining chips, and HE contaminated combustibles. OB waste treatment operations are permitted by regulatory agencies and all OB activities are regulated by the Resource Conservation and Recovery Act (RCRA).

DOE, in collaboration with external sponsors, has pursued the research and development of other alternatives for disposal and sanitization of energetic materials no longer required to meet our National Security mission(s). These

techniques include: Super-Critical Water Oxidation, Molten-Salt Reactor disposal, Base Hydrolysis disposal, and Incineration. At LANL, for example, alternative techniques were noted in the SPEIS, in particular in Section 3.8.2.1.5 Alternative 2d, “Consolidate unconfined firing to one site or eliminate it.” The LANL sub-section included the following language: “LANL currently operates an Emergency Management and Response (EM&R) site that includes open detonation of suspect/terrorist threat devices for the Laboratory and the County of Los Alamos. This site is a destruct site that will always require some outdoor capability (for example destruction of a “car bomb”; this could be characterized as an emergency).

The Clean Air Act, Title V operating permits at sites include requirements for monitoring emissions from sources and keeping records concerning those sources. Monitoring of the environment in and around NNSA sites generally includes air, water, soil, and foodstuffs, and monitoring results are reported in annual environmental surveillance reports. Chapter 10 of Volume II of the SPEIS describes permits issued by regulatory authorities for NNSA facilities and operations.

14.D.3

A commentor stated that there is inadequate air and groundwater monitoring for the open burning and open detonation at LANL.

Response: *All LANL operations comply with the New Mexico Air Quality Control Act and Federal (e.g., Clean Air Act, Toxic Substances Control Act) laws and regulations and have valid permits as described in Chapter 10. The LANL contractor complies with its Clean Air Act, Title V operating permit which includes requirements for monitoring air pollutant emissions from sources at LANL and includes recordkeeping for these sources. Current air sampling programs at LANL include ambient non-radiological air monitoring, an ambient radiological air sampling network called AIRNET, and stack sampling for radionuclides, as described in Chapter 4, Section 4.1.4.1.3 of Volume I of the SPEIS. The LANL contractor evaluates the results from these programs and makes changes in the sampling locations and constituents as appropriate. Effluents from LANL facilities are discharged in accordance with a National Pollutant Discharge Elimination System permit that establishes limits on the volume and quality of the discharge.*

LANL has a very good record of complying with permit conditions, which are set to protect health and safety. Under all alternatives analyzed in the SPEIS, NNSA would continue to meet permit conditions designed to protect water resources at LANL. In addition, NNSA operates a monitoring program (see Chapter 4, Section 4.1.5) to detect contamination that has resulted from past practices. In accordance with applicable regulations and agreements, LANL staff evaluates and takes corrective action for occurrences of contamination in groundwater and surface waters at LANL.

14.D.4 The following comments were received regarding NTS and radiological emissions:

- Page 4-128 of the Draft SPEIS refers to 2006 air quality data and states that, "the estimated annual dose to the public from radiological emissions from current and past NTS activities is well below the 10 mrem per year dose limit (NTS 2007)." The commentor goes on to state: "The data that this result is based upon are presumably presented in Table 4.3.4-2 (this should be clarified), but the Draft SPEIS does not present the dose calculation. Appendix C discusses radiation dose and the latent cancer fatality as a measure of risk, but does not present even an overview of how the values (emission rates) in Table 4.3.4-2 are converted into dose. Key in such an overview is the realization of the complexity and uncertainty in these dose estimates that goes largely unappreciated by the public.
- The Draft SPEIS should also provide a map to show the sampling locations. It should be noted that the total radiological emissions reported in Table 4.3.4-2 is 170 curies per year for tritium, and in the previous year a value of 560 curies per year was reported in "National Emissions Standards for Hazardous Air Pollutants." This difference is very striking for measurements just one year apart. Given the nature of air measurements this difference may not be anomalous, and the SPEIS again needs to reflect this level of uncertainty."

Response: *Table 4.3.4-2 of Volume I of the SPEIS presents radiological atmospheric releases from the NTS for 2006. Current operations produce the dose estimates presented in Section 5.3.11 of Volume II. These doses are from the NTS Annual Site Environmental Report (ASER), which calculated the dose from existing operations. The methodology for those dose calculations are presented in the NTS ASER. With respect to tritium emissions, those emissions are based on existing operations. It is not uncommon to have large differences in emissions from year to year as quite frequently measurable releases can be tied to specific activities. It is noteworthy that the dose to the MEI from NTS operations is very small. Even if tritium emissions were to increase from 170 curie (Ci) per year to 560 Ci/yr (which is not expected), the MEI dose would still be well below the 10 mrem/yr limit.*

The NTS ASER includes maps illustrating the location of monitoring stations. The NTS ASER is available on the NNSA Nevada Site Office webpage at <http://www.nv.doe.gov/library/publicat>.

14.D.5 A commentor stated that the SRS Environmental Report for 2006 (SRS 2007) shows significant increases in air emissions of sulfur dioxide, total particulate matter, particulate matter <10 microns, and nitrogen dioxide in 2005 versus 2004, and requested that Table 4-1 (page 47) from this report be included in the

SPEIS. The commentor also requested that NNSA add that plutonium 238 was emitted in 2005 at concentration levels above the Derived Concentration Guidelines (DCGs) at the 319-F main stack. Finally, the commentor stated that inclusion of Figure 4-1 from the 2006 Environmental Report referenced above would show the 10-year history of SRS annual atmospheric tritium releases.

Response: *The information identified by the commentor has been added to Section 4.8.4.1.2 of Volume I of the SPEIS.*

14.D.6

The following comments were received regarding SNL/NM and radiological emissions:

- Emissions data from SNL/NM facilities generate airborne releases of radiation and that accurate monitoring of radioactivity emitted from facilities handling radionuclides is fundamental to accurate assessment of worker and public doses from those facilities.
- SNL/NM fails to conduct monitoring of actual releases from many of its facilities and instead relies on calculated emission rates, rather than sampled and analyzed emission rates as shown in Robinson 2006. As shown in that report, in 2005 SNL/NM calculated, rather than monitored, radioactive emissions from 9 of 16 reported sources, including the Neutron Generator Facility, SNL/NM's largest projected source of tritium emissions and a "Complex Transformation" facility. To address this defect in the SNL/NM monitoring of its radioactive emissions, the commentor stated that the SPEIS should include an analysis of the history of airborne radiation emissions and emission monitoring at SNL/NM, identify and address consequences of the failure to accurately monitor past activities - including potential for spills and leaks at facilities for which emission data were calculated not sampled, and provide for conduct of comprehensive monitoring of all sources of future airborne radiation releases from facilities at SNL/NM.
- The distribution and accuracy of ambient air monitoring in and around SNL/NM is significantly poorer than the ambient air monitoring programs at other DOE sites monitored at only four locations as compared to 46 locations at LANL, even though SNL/NM reported larger releases of alpha activity than LANL.
- The SPEIS should analyze the history of ambient airborne monitoring of radioactivity in the SNL/NM area, compare and contrast that history with the programs at other NNSA facilities - including the NNSA facilities evaluated in the SPEIS, and provide for an expanded scope of ambient airborne radioactivity monitoring at SNL/NM to ensure that people living near SNL/NM benefit from a monitoring program that is similar in both the number of sampling sites and range of radioactive characteristics sampled to those at other DOE facilities.

Response: *SNL/NM reports emissions on a calendar year basis to EPA in accordance with EPA regulations (40 CFR Part 61, Subpart H, “National Emissions Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities”). These emissions are also reported in the Annual Site Environmental Report. SNL/NM has established a monitoring and reporting system compliant with EPA regulations, and DOE Orders and guidance. SNL/NM also maintains a meteorological monitoring program onsite to provide site-specific representative data. Continuous monitoring of emissions is only required for point sources with the potential to discharge radionuclides in quantities which could result in an effective dose equivalent in excess of 1 percent of the standard (0.1 mrem). There are no emission sources at SNL/NM that meet this criterion. SNL/NM currently has 15 potential NESHAP facilities that may be defined as either point or diffuse emissions sources. Of the 15 sources, 14 were point sources, and one was diffuse (the Mixed Waste Landfill). Four of the 15 sources reported no emissions in 2007.*

Although not required by law, SNL/NM voluntarily uses continuous monitors at two facilities as a best management practice, the Neutron Generator Facility (NGF), and the Radioactive Mixed Waste Management Facility (RMWMF). Periodic confirmatory monitoring is performed at four other facilities. The remaining facilities have emissions so small that they can only be estimated by engineering calculations. All isotopes which may be potentially emitted and are long-lived enough to reach receptors are either monitored directly or calculated. For the annual dose calculations, SNL/NM models the annual dose at 35 different locations to determine the onsite and offsite locations with the highest dose. In 2007, the highest emissions were from tritium and Argon-41, and the Maximally Exposed Individual (MEI) onsite would have potentially received a dose of approximately 0.001 mrem/year. The offsite MEI was located at the Eubank Gate area, and the dose was approximately 0.0007 mrem/year. These quantities are far below regulatory levels of concern. SNL/NM's radiological air emissions monitoring program meets or exceeds all requirements; providing increased levels of monitoring, or expending resources to assess SNL/NM's program versus other DOE/NNSA sites is not justified.

14.D.7 NOT USED

14.D.8 A commentor stated that increased emissions, as they relate specifically to Santa Clara Pueblo, were not analyzed in the Draft SPEIS. Monitoring indicates contaminant transport from LANL to the Pueblo via particulate emissions. Radioactive particulates appear to be at issue in the document for construction workers but impacts are underestimated for Santa Clara Pueblo. The document appears to state that only construction workers for the additional plutonium pit manufacturing infrastructure at LANL could receive radiation doses above natural background radiation levels. Thus, given that LANL and Santa Clara Pueblo air monitoring data show the prevailing winds at Santa Clara come from

the direction of LANL, and given that dusts are more radioactive than previously understood, construction activities that present radiation risks to the construction workers will impact Santa Clara Pueblo too. This needs to be analyzed in a revised Draft SPEIS.

Response: *The SPEIS addresses emissions for each of the alternatives and the potential health effects related to these emissions. The analysis assumes very conservative assumptions regarding the maximally exposed individual (MEI) (see comment-response 14.J.1 regarding the conservative assumptions for the MEI), such that no person could be expected to receive a dose comparable to the MEI dose. At LANL, the MEI dose was calculated to be 0.077 mrem, which is more than 100 times less than the regulatory limit of 10 mrem. Consequently, the dose to any member of the Santa Clara Pueblo would be less than the MEI dose, and more than 100 times below regulatory limits.*

Current air sampling programs at LANL include ambient non-radiological air monitoring, an ambient radiological air sampling network called AIRNET, and stack sampling for radionuclides, as described in Chapter 4, Section 4.1.4.1.3, of Volume I of the SPEIS.

The Clean Air Act, Title V, operating permit includes requirements for monitoring emissions from sources at LANL and recordkeeping concerning those sources. Although toxic and radioactive air emissions can potentially have detrimental impacts, the past emission levels analyzed and those projected for

LANL would not be expected to cause unacceptable impacts on human health or the environment.

A study in the LANL SWEIS (LANL 2008) provides a more detailed examination of the potential health impacts to persons whose traditional living habits and diets could cause greater exposures to environmental contaminants than would be experienced by the hypothetical offsite resident whose diet would not consist of home-grown foods. Please refer to comment-response 14.J.1 for information related to the dose to the special pathways receptor.

14.D.9

One commentor stated that the SPEIS should include information concerning the effects a release of non-radiological air pollutants would have on the surrounding area, specifically within traditional Native American religious, cultural and gathering areas of the Western Shoshone around the NTS. The commentor added that the SPEIS should include the effects of non-radiological pollutants on sensitive groups such as elders and children.

Response: *Impacts to air quality, including at NTS, are addressed in Section 5.3.4 of Volume II of the SPEIS. NNSA operates the NTS in compliance with an Air Quality Operating Permit from the Nevada Bureau of Air Pollution Control. As noted in the 2006 NTS Site Environmental Report, non-radiological air*

emissions from the NTS are well within the limits imposed by the Air Quality Operating Permit. See response to comment-response 14.K.1 for information regarding impacts to sensitive receptors and 14. J.1 regarding impacts to the MEI and surrounding population.

14.E WATER RESOURCES

Commentors expressed concern about water resources, including existing and potential future contamination of the public water supply. Specifically, commentors were concerned that:

- The water quality near Oak Ridge and contamination of the water supply in a karst terrain (regions that are underlain by limestone and dolomite bedrock) such as in the Oak Ridge area could be adversely effected by Complex Transformation.
- The contamination of the Albuquerque water supply, the Rio Grande River, and local groundwater could be contaminated due to activities at LANL, including nuclear weapons production.
- The groundwater quality and the ineffectiveness of current state and federal oversight might lead to groundwater contamination.
- The contamination of the perched aquifers near Pantex might be made worse.
- Plutonium is or could get into the drinking water at the Buchman Wells, near LANL.

- The levels of contaminants in the water supply at LANL, Oak Ridge Y-12, SRS and Pantex as stated in the SPEIS could be elevated as a result of Complex Transformation.
- Existing and potential future contamination of aquifers could be elevated due to the mining of uranium.
- The waste disposal facility at Yucca Flats could contaminate groundwater.

Response: *Section 4.9.5.2.1 of Volume I of the SPEIS addresses groundwater quality at Y-12 and Section 4.9.6.1 describes karst formations in the area. The level of analysis presented in the SPEIS is appropriate for a programmatic NEPA document. Detailed discussion of groundwater monitoring and contamination at the Oak Ridge Reservation may be found in Annual Site Environmental Reports, available on the internet at: http://www.ornl.gov/sci/env_rpt/.*

Water quality and use at LANL are addressed in the SPEIS at Section 4.1.5 of Volume I. Impacts of Complex Transformation on water resources at LANL are addressed in Section 5.1.5 of Volume II. There is no indication that contamination from LANL is affecting Albuquerque's drinking water supply. According to the 2007 Albuquerque Bernilillo County Water Utility Authority

Water Quality Report, Gross Alpha Particle Activity, Radium 228, Radium 226, and Uranium were among regulated substances that were monitored but not detected (ABCWUA 2007). The 2007 water quality report may be accessed at <http://www.abcwua.org/content/view/280/484/>.

Information regarding the Ogallala Aquifer and the perched aquifer at Pantex is contained in Sections 4.5.5.2 and 4.5.5.2.1 of Volume I of the SPEIS. Impacts to groundwater at Pantex are addressed in Section 5.5.5 (Volume II). Response to comment 14.E.1 also addresses the Ogallala Aquifer. Water quality and use at SRS are addressed in the SPEIS at Section 4.8.5.

State and Federal oversight of groundwater quality is not within the scope of Complex Transformation. This concern should be expressed to state and Federal agencies with jurisdiction over the resource and to state and Federal legislators. The effectiveness of waste disposal at the Yucca Mountain Facility and any impacts this facility could have on groundwater is not within the scope of the SPEIS. The potential cumulative impacts of the Yucca Mountain Facility and the alternatives in the SPEIS are evaluated. Likewise, the effect of uranium mining on groundwater quality is not within the scope of this SPEIS.

14.E.1 The following comments were received regarding water issues at Pantex:

- Groundwater is a finite regional resource that is currently being mined from the Ogallala Aquifer in the Texas Panhandle region.
- Even though NNSA states that its water needs from the region's sole source aquifer is miniscule relative to that used by agriculture and the City of Amarillo, agricultural uses could respond rapidly to groundwater declines and rising energy costs.
- NNSA operations at Pantex Plant lack that flexibility, especially given the enormous investment of public funds in the approved and formalized procedures of operations and in construction of the proposed facilities, not to mention the ones already in existence. Thus, the water resources required for this project are unreliable in the long-term.
- NNSA has deprived the public of the use of its natural resource due to contaminated groundwater that has resulted from past Pantex operations and waste management methods.
- The public loss of its groundwater carries with it a financial liability under CERCLA (Natural Resource Damage Assessment) and NNSA should disclose its estimates for this future liability at Pantex and other sites. For example, Pantex acknowledges that its groundwater will be contaminated for more than 100 years.
- A document titled Pantex Plant FY 2006-2015 Ten-Year Comprehensive Site Plan discloses NNSA estimates for Pantex future environmental liabilities. This information should be included in the SPEIS.

Response: *Analysis of groundwater resources is conducted in the same process used to assess potential impacts. Potential impacts of Complex Transformation construction and operations at Pantex would result in less than 1 percent change in the current resource. The water resource would not be compromised beyond its capacity. The Panhandle Water Conservation District No. 3, the governing agency for the Ogallala Aquifer, does not presently limit the quantity of water pumped from the aquifer. Pantex is in compliance with areas laws, regulations, and permits for groundwater use. Pantex has no regulatory authority to change the management and terms of use for the Ogallala Aquifer. NNSA continues to operate and manage Pantex in compliance with Federal, State and local regulations, and adjusts management and operations as necessary to continue to facilitate compliance with applicable regulations and permits.*

The Texas Commission on Environmental Quality establishes NPDES permit limitations that are protective of in-stream water quality standards. Pantex discharges (wastewater and stormwater) are consistently in compliance with their respective permit requirements. Complex Transformation construction and operations at Pantex would be in compliance with Federal, State, and local permits and regulations.

The Pantex site is currently undergoing remediation activities. Potential CERCLA liabilities for the site are uncertain and beyond the scope of the SPEIS. The cost estimates for Pantex future environmental liabilities for past activities are not within the scope of the SPEIS because they would not affect or be affected by any decisions that will be informed by this SPEIS.

14.E.2

The following comments were received regarding water availability at and around LANL:

- Concern about the adequacy of the water supply to meet future demands and stated that only one percent of the water on the planet is potable and is currently being contaminated by plutonium operations.
- Concern about the adequacy of the water supply in the area surrounding LANL if a significant amount of the water supply will be used for the Complex Transformation at LANL.
- The natural water supply isn't enough to support the public and the national labs after Complex Transformation.
- Concern about water quality and water volume of the southwestern and southeastern United States.

Response: *A description of existing water availability and supply may be found under the Water Resources subsection for each site in Chapter 4 of Volume I of the SPEIS. Impacts of Complex Transformation on water resources supply and quality are addressed for each site in Chapter 5. Additional discussion bearing on water availability may be found in responses to other comments in this Section 14.E. Further, NNSA is committed to decreasing or eliminating all*

discharges that have a potential to release contaminants to the environment and is in compliance with all applicable water quality regulations and permit requirements. Pursuant to DOE Order 450.1, Environmental Protection Program, NNSA sites are pursuing pollution prevention programs and groundwater protection programs. NNSA also follows the guidance contained in DOE G 450.1-5, Implementation Guide for Integrating Pollution Prevention into Environmental Management Systems; DOE G 450.1-6, Groundwater Surveillance Monitoring Implementation Guide for Use with DOE O 450.1, Environmental Protection Program; DOE G 450.1-9, Groundwater Protection Programs Implementation Guide for Use with DOE O 450.1, Environmental Protection Program.

14.E.3

The following comments were received regarding groundwater contamination at LANL:

- Past operations at LANL have resulted in groundwater contamination in the region.
- In most of the alternatives, LANL would use more water and the SPEIS should address how that might or might not cause additional contamination and perhaps migration of existing contamination.
- Stormwater from LANL contains 38,000 times the clean water standard for certain pollutants.
- The Buckman diversion project (Santa Fe water supply) depends on wells that are radioactively contaminated.

- Have hazardous radioactive materials from LANL have entered the groundwater?
- DOE self-regulates contaminants in groundwater.
- EPA safe drinking water standards for radionuclides do not provide adequate reproductive protection.
- The Draft SPEIS does not accurately describe the LANL contaminants that are detected in the sole-source regional aquifer as documented in several LANL reports.
- The contamination mentioned in the regional aquifer in the Draft SPEIS only includes tritium, perchlorate and dioxane [1-4].

Response: *NNSA notes the commentors' concerns regarding possible contamination of groundwater in the region. The LANL contractor operates a monitoring program to detect contamination in area waters, both surface water and groundwater. The results of this monitoring program are published annually in LANL environmental surveillance reports (available at: www.LANL.gov/environment/all/esr.shtml). In accordance with applicable regulations and agreements, NNSA evaluates occurrences of contamination in surface waters and groundwater at LANL and takes corrective actions. NNSA is also committed to decreasing or eliminating all discharges that have a potential*

to release contaminants to the environment. NNSA is in compliance with all EPA regulations.

Sections 4.1.5.1, Surface Water, and 4.1.5.1.1 Surface Water Quality of Volume I address the concerns regarding storm-water and the Buckman diversion project. Section 4.1.5.2.1, Groundwater Quality, discusses any radioactive materials that may have entered the groundwater in the Los Alamos region. That Section has been updated to reflect the best available information regarding contamination in the regional aquifer.

The LANL Environmental Surveillance Report for 2005 evaluated groundwater radioactivity and stated: “In 2005, no regional aquifer radioactivity analyte activity or concentration values exceeded the 4-millirem DOE DCGs [derived concentration guides] applicable to drinking water in groundwater samples, other than naturally occurring radionuclides (for example, radium-226 and uranium-234). The main radioactive element detected in the regional aquifer is naturally occurring uranium, found in springs and wells throughout the Rio Grande Valley. The large gross alpha values found in samples from springs and wells in the Rio Grande Valley result from the decay of naturally occurring uranium in the water” (LANL 2006b).

Sediment contamination from LANL activities is reflected in the water quality of the receiving streams. Current water quality monitoring indicates that the State of New Mexico’s water quality standards are not exceeded in downstream reaches of the Rio Grande, and existing water quality is expected to improve over time. Additionally, NNSA manages stormwater runoff from both industrial and construction activities under various Stormwater Pollution Prevention Plans. NNSA requires cleanup of any spills or leaks, monitoring of surface water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity.

Previous contamination from past LANL activities is being addressed with a Consent Order issued by NMED. Since 2005, LANL has been complying with this Order which requires LANL to monitor the groundwater in the area surrounding Los Alamos. This Order is aimed at ensuring quality drinking water by meeting water quality standards, as well as establishing a time table for environmental cleanup of hazardous constituents released by LANL. There is no new contamination from LANL and future operations will not alter that. NNSA is required to follow the Consent Order, which stipulates applicable groundwater cleanup levels. NNSA is committed to protecting drinking water sources. The comment regarding the adequacy of the EPA standard is outside the scope of this SPEIS.

For more detailed information regarding groundwater quality in the vicinity of LANL, please see Chapter 4, Section 4.3.2, of the LANL SWEIS (LANL 2008). Additional details on stormwater management at LANL are also included in that

document, in Chapter 4, Section 4.3.1.3, Stormwater Runoff. Movement of groundwater contamination is discussed in Chapter 5, Section 5.13 That document also includes a special pathways analysis that was added to Appendix C, Section C.1.4.2, to address concerns about contamination of the Rio Grande. The analysis shows that drinking Rio Grande water that could be impacted by past LANL activities is comparable to drinking water from the Jemez River, which is not downstream of LANL. The monitoring data and the drinking water analysis do not indicate a need to extend impacts analysis well beyond the vicinity of LANL (LANL 2008).

14.E.4 A commentor asked about water metering at LANL, and questioned whether it is being done to conserve water or to monitor for contamination.

Response: *Los Alamos County has been working to lessen its dependence on regional groundwater and is currently studying the possible use of its San Juan-Chama surface water allotment. The use of this allotment would likely reduce groundwater withdrawals, which could stabilize water levels in the regional aquifer. Los Alamos County recently completed the conversion of its water contract with the Bureau of Reclamation to access San Juan-Chama water, which would enable the county to move forward with this water diversion project. This project, coupled with the implementation of the measures outlined in the Los Alamos County August 2006 Long-Range Water Supply Plan, should enable it to meet regional water demands for the next 40 years (LANL 2008). Furthermore, measures to monitor groundwater quality have been implemented by the NMED's Consent Order, which stipulates LANL's need to monitor the groundwater in the area surrounding Los Alamos. This Order is aimed at ensuring quality drinking water by meeting water quality standards, as well as establishing a time table for environmental cleanup of all hazardous constituents produced by the Lab. This Order is set to be completed by 2015.*

NNSA has actively implemented water use management and conservation measures at LANL that will be integral to any new construction in the future. In addition, NNSA operates a monitoring program to detect contamination that has resulted from past practices. NNSA evaluates and takes corrective action for occurrences of contamination in groundwater and surface waters at LANL, in accordance with applicable regulations and agreements.

14.E.5 The following comments were received regarding LANL water rights:

- The groundwater resources available to LANL are not correctly represented.
- LANL is not limited to the water right as it is referred to in the SPEIS.
- The Department of Public Utilities can provide the amount of water that LANL will require for the Preferred Alternative or other chosen mission.
- The Draft SPEIS indicates that some of the alternatives involving LANL

would actually exceed LANL's water rights. Draft SPEIS at 3-139 and 5-37. Although such options are not NNSA's Preferred Alternative, NNSA must be clear that any alternative that exceeds LANL's water allotment must not be considered viable because exceeding water allocations in a desert environment clearly would be an irretrievable and irreversible resource commitment, which NEPA prohibits.

Response: *LANL does not have a ceiling for its water rights. However, NNSA has an estimated target ceiling for LANL's water usage of 1,662 acre-feet, (542 million gallons [2,050 million liters] per year), 30 percent of the water that it is able to purchase from Los Alamos County. NNSA is now a county water customer; and as such, NNSA is billed and pays for the water it uses in accordance with a water service contract.*

Water demands for the Complex Transformation alternatives at LANL were updated. As discussed in Chapter 5, operations for some alternatives would exceed the water currently available to LANL. These estimates are based on trend analysis and projections that include calendar year 2005 water usage data for LANL and other Los Alamos County users. Should any of those alternatives that exceed current water availability be selected, NNSA would need to coordinate with Los Alamos County to develop a means to meet those needs to support the selected alternative.

NNSA continues to work with Los Alamos County in implementing measures to conserve water and in planning for future water demands. NNSA has attempted to document current water supply conditions while characterizing planning efforts and proposals related to the future availability of water as they are currently known. The commentor is incorrect in asserting that NEPA prohibits irretrievable and irreversible resource commitments. NEPA does however require their disclosure and assessment.

14.E.6

A commentor questioned whether the water use projections include water use by operations such as supercomputing at LANL. The commentor noted that the Draft SPEIS did not mention or assess the impact of the supercomputing operations proposed for LANL as part of the Complex Transformation. The LANL SWEIS indicates that supercomputing could use up to 51,000,000 gallons of water per year.

Response: *Supercomputing operations are part of the No Action Alternative at LANL. The Strategic Computing Complex EA (DOE 1998) was completed in 1998 and evaluates the projected impacts of construction and operation of the facility now referred to as the Nicholas C. Metropolis Center for Modeling and Simulation (Metropolis Center). The EA conservatively estimated that operation of the facility would require approximately 7.1 megawatts of electricity, and 63 million gallons of recycled water per year. At present, the Metropolis Center requires approximately 5 megawatts of electricity, and 19 million gallons of*

water per year primarily derived from groundwater. Actual operation of the Metropolis Center has shown that significant increases in computational capability (measured in teraflops, or trillion floating point operations per second) have correlated to only moderate increases in electricity and cooling requirements, and would be expected to remain within the levels evaluated in the SPEIS No Action Alternative for LANL.

14.E.7 A commentor stated that SRS does not have enough water to support nuclear weapons activities.

Response: *Domestic water supplies at SRS come from a system composed of several wells and water treatment plants. The Savannah River is a major source of this water and has been classified as suitable for drinking after proper treatment. As such, the SRS has been using and is expected to continue using approximately 3.5 billion gallons of water per year. SRS has sufficient water availability to support nuclear weapons activities. The SRS has absolute ownership of the groundwater resource underlying SRS land and has no legal restrictions on the amount of groundwater which can be withdrawn annually.*

14.E.8 A commentor requested an explanation of the water conservation programs to be used in Complex Transformation at LANL.

Response: *As for the commentor's concerns about water use for new facilities, new facility construction is forecast to have a minor impact on the overall trend in site-wide water and other utility demands. Operationally, a number of the new and more resource efficient facilities would replace older facilities resulting in a net decrease in utility demands over time, as discussed in Chapter 5, Section 5.8.2.3, of the LANL SWEIS (LANL 2008). Such is the case with the new Chemistry and Metallurgy Research Replacement Facility, which would replace the existing Chemistry and Metallurgy Research Building. Operation of the Chemistry and Metallurgy Research Replacement Facility was analyzed in the Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS) (DOE 2003f) and was the subject of a subsequent ROD (69 FR 6967).*

14.E.9 The following comments were received related to LANL water issues:

- LANL has water rights to approximately 1,662 acre-feet per year and expanded operations would result in LANL pumping 10 percent more from the regional aquifer, which would exceed their water rights.
- Adding an advanced fuel cycle facility for nuclear power plants would result in LANL exceeding its current water rights by 60 percent, which could use approximately 2,672 acre-feet per year.
- Contaminants have been found in the regional aquifer, including fast-

moving hexavalent chromium, a cancer-causing carcinogen, and perchlorate, a chlorine-based chemical that interferes with thyroid function.

- LANL discharges approximately 500 acre-feet per year of industrial and sanitary effluent into the canyons that flow to the Rio Grande.
- LANL is not monitoring all 1,405 waste sites that have the potential to release contaminants into surface water during storms and when the snow melts.
- A commentor who is the plaintiff to a Clean Water Act lawsuit against DOE for violations at LANL, incorporated the amended complaint to their comments.
- The Española Basin was recently designated a sole source aquifer by the Environmental Protection Agency, which requires additional protections. DOE must meet the requirements of the Española Basin Sole Source Aquifer and incorporate those requirements, impacts and effects into the supplemental Draft SPEIS.
- DOE must prioritize protecting water quality and quantity at LANL.

Response: *Water use at LANL has actually decreased since 1999, in part due to conservation efforts. NNSA transferred 70 percent of its water rights for LANL to Los Alamos County and leases the remaining 30 percent to the county. NNSA is now a county water customer; as such, NNSA is billed and pays for the water it uses in accordance with a water service contract. For water use planning purposes, NNSA has established a target ceiling quantity for water use equal to the water rights it still owns (542 million gallons per year). Los Alamos County recently completed the conversion of its water contract with the Bureau of Reclamation to access San Juan-Chama project water, which will enable the county to move forward with this water diversion project. This project, coupled with the implementation of the measures outlined in the Los Alamos County August 2006 Long-Range Water Supply Plan, should enable it to meet regional water demands for the next 40 years (LANL 2008). Water demands for the Complex Transformation alternatives at LANL were updated. As discussed in Chapter 5, some operations management scenarios exceed the water currently available to LANL. These estimates are based on trend analysis and projections that include calendar year 2005 water usage data for LANL and other Los Alamos County users. Should any of those alternatives that exceed the current water availability be selected, NNSA would need to coordinate with Los Alamos County water utility to develop a means to meet the future operational water needs to support the selected alternative.*

Appendix F of the Final LANL SWEIS (LANL 2008) describes the results of monitoring for contamination of environmental media around LANL. Contamination detected in these samples reflects worldwide fallout of radioactive particles from nuclear weapons testing; nuclear accidents, such as Chernobyl; releases from industrial, commercial, medical, and household uses of chemicals and radionuclides; and releases from decades of activities at

LANL. It is true that some contaminants are present onsite at levels above applicable standards and guidelines. Elevated levels are investigated to confirm the validity of the results, determine the source and extent of the contamination, and evaluate the needed control and cleanup technologies. As described in Chapter 4 of the Final LANL SWEIS, in 2005, chromium concentrations between 375 and 404 parts per billion were detected in well R-28 in the regional aquifer below Mortandad Canyon. Additional sampling in 2006 indicates that chromium contamination is present in the regional aquifer in a limited area beneath Sandia and Mortandad Canyons and in perched groundwater beneath Mortandad Canyon. Chromium contamination was not detected in water supply wells. In response to such sampling results, LANL prepared an Interim Measures Work Plan for Chromium Contamination in Groundwater, the goals of which are to evaluate the extent of the chromium contamination, identify the source and provide a process to evaluate appropriate remediation solutions.

Impacts on surface water can be caused by industrial outfalls, stormwater runoff, dredge and fill activities, or sediment transport. LANL has one sanitary outfall and 20 industrial outfalls; effluents from LANL facilities are discharged in accordance with a National Pollutant Discharge Elimination System permit that establishes limits on the volume and quality of the discharge.

LANL is performing monitoring of all wells required by the New Mexico Environment Department Consent Order. This monitoring is conducted in accordance with a New Mexico Environment Department-approved monitoring plan (Interim Facility-Wide Groundwater Monitoring Plan). As periodic watershed monitoring continues, LANL, in consultation with the New Mexico Environment Department, will continue a phased approach to determining which wells are needed and in what locations to satisfy the long-term monitoring needs. The process is established by and in compliance with the Consent Order.

14.E.10 In addition to the comments received and categorized in comment-response 14.E.3, the following additional comments were received related to water quality at LANL:

- Groundwater contamination has been detected in the sole-source regional aquifer below LANL as documented in several LANL reports and that the Draft SPEIS does not accurately describe that contamination.
- The contamination mentioned in the regional aquifer in the Draft SPEIS only includes tritium, perchlorate and dioxane [1-4]. The SPEIS does not mention the large and poorly understood plume of hexavalent chromium in the regional aquifer within a region of many drinking water wells for Los Alamos County and bordering the property of the San Ildefonso Pueblo.
- The Draft SPEIS acknowledges the radionuclide contamination that is present in the groundwater produced from alluvial sediments in Mortandad Canyon. Plutonium-238, plutonium-239, plutonium-240, and

americium-241 are above the 4-millirem DOE standard for drinking water. The Draft SPEIS does not inform the reader of the detection of these trace metal radionuclides in the water samples produced from the LANL characterization wells installed in the regional aquifer below Mortandad Canyon.

- There are many factors which prevent characterization wells from providing reliable water samples.

Response: *Text in Section 4.1.5.2.1 of Volume I of the SPEIS has been updated with revised information regarding new contaminant levels. LANL is monitoring the quality of its groundwater in accordance with the New Mexico Environment Department Consent Order. Under this Order, actions are being taken to ensure quality drinking water for Los Alamos County by implementing Interim Work Plans to research sources of contamination, history of the site and methods to reduce contamination to a level that complies with state and Federal regulations.*

The wells with high hexavalent chromium concentrations are being reassessed due to potential residual drilling fluid effects. The results of this assessment published in the Well Screen Analysis Report indicate that 52 percent of the wells evaluated have not been significantly impacted by the residual fluid. For those wells that may have been impacted, LANL has initiated a program to evaluate and rehabilitate them to ensure quality drinking water. See also

comment-response 14.E.3 for additional information regarding LANL groundwater contamination issues.

14.E.11

Commentors stated that NNSA has not analyzed the additional amount of water resources that it will use for future Complex-related activities at LANL and the diversion and/or contamination of the water from availability and quality for agricultural activities into the future.

Response: *Water use at LANL has actually decreased since 1999, in part due to conservation efforts. NNSA transferred 70 percent of its water rights for LANL to Los Alamos County and leases the remaining 30 percent to the county. NNSA is now a county water customer; as such, NNSA is billed and pays for the water it uses in accordance with a water service contract. For water use planning purposes, NNSA has established a target ceiling quantity for water use equal to the water rights it still owns (542 million gallons per year). Los Alamos County recently completed the conversion of its water contract with the Bureau of Reclamation to access San Juan-Chama project water, which will enable the county to move forward with this water diversion project. This project, coupled with the implementation of the measures outlined in the Los Alamos County August 2006 Long-Range Water Supply Plan, should enable it to meet regional water demands for the next 40 years (LANL 2008). Water demands for the Complex Transformation alternatives at LANL were updated. As discussed in*

Chapter 5, some operations management scenarios exceed the water currently available to LANL. These estimates are based on trend analysis and projections that include calendar year 2005 water usage data for LANL and other Los Alamos County users. Should any of those alternatives that exceed the current water availability be selected, NNSA would need to coordinate with Los Alamos County water utility to develop a means to meet the future operational water needs to support the selected alternative. Furthermore, due to concern expressed for the quality of agriculture in the LANL region, NMED collects and analyzes foodstuff samples as part of its surveillance program to ensure quality standards are met.

14.E.12 The following comments were received related water issues at SNL/NM:

- NNSA failed to address the growing and widespread contamination of groundwater from the legacy wastes of SNL/NM and Kirtland Air Force Base. Section E.4 in Appendix E of the Draft SPEIS addressing SNL/NM, takes credit for data from surface water monitoring and groundwater monitoring that are in fact based on groundwater monitoring wells that do not monitor the ‘groundwater’ (as defined either by the Consent Order of April 29, 2004 or 40 CFR 260.10).
- The SPEIS fails to consider the risk of the total amount of contaminants at SNL/NM because SNL/NM itself cannot identify the amount of total contamination it has dumped.
- Groundwater contamination currently exceeds regulatory limits. (Table E.4-1). Many of the monitoring wells at SNL/NM have corroded well screens and must be replaced. The corrosion of the stainless steel well screens hides knowledge of contamination. Some 30 of 50 wells at SNL/NM are defective and need replacement or to be plugged and abandoned. Drilling fluids were used to install many of the monitoring wells and that further prevents detection of contamination of the groundwater at SNL/NM.
- SNL/NM has failed to analyze the water in drinking water wells for the City of Albuquerque for the contaminants of concern that have been dumped at SNL/NM from 50 years of operations of laboratories waste streams.“

Response: *Table E.4-1 in Appendix E has been updated with the best information available. SNL/NM is in compliance with all New Mexico Environment Department and City of Albuquerque permit and Compliance Order on Consent (effective 2004) monitoring requirements. Installation of wells was completed in compliance with standard drilling practices. See comment-response 14.E for related discussion.*

14.E.13 A commentor stated that LANL already is contaminating drinking water wells in Los Alamos and Santa Fe, along with contaminating the entire Rio Grande River

system with radionuclides. LANL has spread radionuclides and would continue to accelerate the spread of hazardous contamination to a 57,000 person low income and minority populace in violation of all principles of Environmental Justice.

Response: *This specific topic is addressed in Appendix E, Section E.3. Additionally, Appendix F of the Final LANL SWEIS (LANL 2008) describes the results of monitoring for contamination of environmental media around LANL. Contamination detected in these samples reflects worldwide fallout of radioactive particles from nuclear weapons testing; nuclear accidents, such as Chernobyl; releases from industrial, commercial, medical, and household uses of chemicals and radionuclides; and releases from decades of activities at LANL. It is true that some contaminants are present onsite at levels above applicable standards and guidelines. Elevated levels are investigated to confirm the validity of the results, determine the source and extent of the contamination, and evaluate the needed control and cleanup technologies.*

Impacts on surface water can be caused by industrial outfalls, stormwater runoff, dredge and fill activities, or sediment transport. LANL has one sanitary outfall and 20 industrial outfalls; effluents from LANL facilities are discharged in accordance with a National Pollutant Discharge Elimination System permit that establishes limits on the volume and quality of the discharge.

LANL is performing monitoring of all wells required by the New Mexico Environment Department Consent Order. This monitoring is conducted in accordance with a New Mexico Environment Department-approved monitoring plan (Interim Facility-Wide Groundwater Monitoring Plan). As periodic watershed monitoring continues, LANL, in consultation with the New Mexico Environment Department, will continue a phased approach to determining which wells are needed and in what locations to satisfy the long-term monitoring needs. The process is established by and in compliance with the Consent Order.

14.E.14

A commentor asked where LANL will obtain the additional water allotment necessary for its activities and what will be the environmental effects on the surrounding low income minority communities for traditional agricultural and domestic water usage? What is the amount of residential development that cannot take place due to future expanded laboratory taking of water resources?

Response: *LANL does not have a ceiling for its water rights. However, NNSA has an estimated ceiling for LANL's water usage of 1,662 acre-feet, (542 million gallons [2,050 million liters] per year), as this is the amount of water NNSA owns and leases to Los Alamos County. NNSA is now a county water customer; and as such, NNSA is billed and pays for the water it uses in accordance with a water service contract.*

Water demands for the Complex Transformation alternatives at LANL were updated. As discussed in Chapter 5 of Volume II of the SPEIS, operations for some alternatives would exceed the water currently available to LANL. These estimates are based on trend analysis and projections that include calendar year 2005 water usage data for LANL and other Los Alamos County users. Should any of those alternatives that exceed current water availability be selected, NNSA would need to coordinate with Los Alamos County to develop a means to meet those needs to support the selected alternative.

In regards to agricultural and domestic water usage, Los Alamos County has been working to lessen its dependence on the regional groundwater aquifer and recently completed the conversion of its water contract with the Bureau of Reclamation to access San Juan-Chama project water, which will enable the county to move forward with this water diversion project. This project, coupled with the implementation of the measures outlined in the Los Alamos County August 2006 Long-Range Water Supply Plan, should enable it to meet regional water demands for the next 40 years (LANL 2008)

14.E.15 The following comments were received regarding contamination at NTS:

- The Draft SPEIS indicates insignificant radiological contamination at NTS from the underground testing and states that, "Analytical results from the network of onsite monitoring wells indicate that migration of radionuclides from the underground test areas is not significant."
- There is no presentation of data, and no map showing where the monitoring is occurring.
- DOE has not conducted drill hole excavations within the underground testing areas with the purpose of elucidating the nature and potential movement of radionuclides from the various test shots.
- The "source term" information has to our knowledge been calculated, but no attempt to obtain physical data to understand the movement of radionuclides from test shots has been made. In fact, the perspective of the DOE has been that except for tritium, radionuclides have not escaped into the groundwater: The SPEIS must detail the contamination of the groundwater with physical data, and show whether these statements are valid. Without a full analysis of the existing contamination, there can be no complete and meaningful environmental analysis of the NTS as part of the proposed action".
- The SPEIS must address impacts to lands held in trust for tribes that may be damaged or made uninhabitable by groundwater contamination.

Response: *The assessment of impacts to groundwater resulting from actions at the NTS considered in this SPEIS are adequate for a programmatic NEPA document (see Section 5.3.5 of Volume II). DOE and NNSA conduct extensive groundwater monitoring both on the NTS and in surrounding areas. The results*

of that monitoring are reported in annual environmental reports. The latest Nevada Test Site Environmental Report 2006 (NTS 2007) (Wills 2007) provides data, including the locations of groundwater and surface water sampling points for the three DOE and NNSA monitoring programs: 1) Routine Radiological Environmental Monitoring Program, 2) water quality assessments of permitted water systems, and 3) the Underground Test Area Project. The total number of groundwater sampling locations that are monitored at specified intervals are 33 offsite wells, 10 onsite water supply wells, and 29 onsite monitoring wells. Surface water monitoring locations include 7 offsite springs, 1 NTS containment pond system, and 2 onsite sewage lagoons. In addition, Desert Research Institute, under NNSA's Community Environmental Monitoring Program, conducts independent monitoring of off-site springs and water systems. The locations of DRI's sampling sites and results are also provided in the 2006 Nevada Test Site Environmental Report and previous annual reports. Various environmental monitoring reports for the NTS, back to 1964, may be found on the NNSA Nevada Site Office website, www.nv.doe.gov, under "Environmental Programs." The results of all monitoring have demonstrated that radiological contamination resulting from underground nuclear testing has not migrated to offsite water sources.

- 14.E.16** A commentor stated that data continued to be collected at the USGS streamflow gauging station on Salt Creek near Tularosa, NM, (station no. 08480595) at WSMR about 120 miles south of SNL and high flows have exceeded the 88 cfs cited in the document on numerous occasions. For example, mean daily flow of 154 cfs was recorded on October 5, 2004; and mean daily flow of 144 cfs was recorded on July 5, 2007.

Response: *NNSA has replaced the previous sentence in Section 4.8.5 with the following text: "Stream flow measured (since 1995) at the USGS gauging station on Salt Creek, located at RR316, showed a monthly mean high of 2.7 cubic feet per second and a low of 0.67 cubic feet per second (USGS 2008a). Daily flows fluctuate relative to the precipitation received. The mean daily flows for the same period of record show highs of 13 cubic feet per second and lows of 0.25 cubic feet per second (USGS 2008a)."*

- 14.E.17** A commentor noted that Section 4.8.5, of the SPEIS states that data from the river's monitoring locations generally indicate that South Carolina's freshwater water quality standards are being met. However, Fourmile Branch (FMB) is listed on South Carolina's 2008 303(d) List of Impaired Waters due to pH levels. Further, Savannah River above, adjacent to, and below the SRS is on the impaired waters list due to mercury contaminations in fish. The Savannah River at and below SRS have a Fish Consumption Advisory due to tissue concentrations of mercury, cesium-137, and strontium-90. Surface water monitoring at SRS shows mercury concentrations in Upper Three Runs Creek (UTRC) and Fourmile Branch exceed the state water quality criterion by three

and four orders of magnitude, respectively, and tritium concentrations in Fourmile Branch exceed criterion by an order of magnitude. Base on this data the commentor recommended revising this Section.

Response: *Fourmile Branch is a poorly buffered blackwater stream which has naturally occurring low pH. The low pH observed in Fourmile Branch is not attributable to SRS activities. The comment regarding mercury concentrations in Upper Three Runs Creek and Fourmile Branch is incorrect. South Carolina mercury water quality criteria for (a) human health water and organism consumption and (b) chronic aquatic life are 0.05 ug/l and 0.91 ug/l, respectively. Review of water quality monitoring data in Fourmile Branch and Upper Three Runs Creek for 2006 (SRS 2007) indicates that neither of these criteria were exceeded in either Upper Three Runs Creek or Fourmile Branch. Although some trophic level 4 fish within both Fourmile Branch and Upper Three Runs Creek exceed EPA's fish tissue criterion of 0.3 mg/kg, this is not unexpected for blackwater streams.*

NNSA made corrections to Section 4.8.5 of Volume I of the SPEIS to state: Monitoring data collected in 2006 indicate that SRS discharges are not adversely affecting the water quality of onsite streams or the Savannah River (SRS 2007).

14.E.18 A commentor indicated that “multiple US Geological Survey (USGS) streamflow gaging stations exist on Upper Three Runs Creek at SRS and it is not clear from the text which gaging station and period of record is being referenced. Gaging station number 02197315, Upper Three Runs Creek at Road ‘A,’ has a drainage area of 203 square miles, which is close to the 210 square miles reported in the text. The mean of monthly discharge for the 1974-2002 period of record for this station ranges from a low of 201 cfs in July to a high of 293 cfs in March, which differs significantly from the 171.2 cfs reported in the text. It would benefit the reader if a more specific and unambiguous reference is made for the streamflow gaging data used in the assessment. Similar concerns about multiple stations exist for Pen Branch. The mean of monthly discharge for the period of record for the only USGS streamflow gaging station on Steel Creek (station number 021973515) ranges from a low of 2.5 cfs in November to a high of 12 cfs in April, which is different from the 26.2 cfs reported in the text. It would benefit the reader if these references were verified.”

Response: *The text in Section 4.8.5 of Volume I of the SPEIS has been updated.*

14.E.19 A commentor stated that “NPDES compliance rates do not indicate that any given discharge is not significantly affecting the water quality of the receiving stream. South Carolina's Water Quality Standards allow for mixing zones,

allocated impact zones where water quality criteria can be exceeded as long as acutely toxic conditions are prevented, and zones of initial dilution, that minimal area of a mixing zone immediately surrounding the outfall where water quality criteria are not met, provided there is no acute toxicity to drifting organisms. Please remove the last sentence in this Section. Inclusion of Table 6-1 (page 74) in the Environmental Report for 2006 (SRS 2007) would provide information on 2006 radioactive liquid releases from SRS, concentrations in the Savannah River below SRS, and EPA Drinking Water Maximum Contaminant Levels (MCLs). Drainage areas and streamflows listed in the third and fourth paragraphs for Upper Three Runs and Steel Creek are significantly different from those listed on the previous page and should be reconciled.”

Response: *The text in Section 4.8.3.3 of Volume I of the SPEIS has been updated. The comment regarding NPDES compliance rates and subsequent impact(s) on water quality is incorrect. The South Carolina Department of Health and Environmental Control establishes NPDES permit limitations that are protective of instream water quality standards. SRS discharges (wastewater and stormwater) are consistently in compliance with their respective permit requirements.*

14.E.20 A commentor stated that “the Environmental Report for 2006 (WSRC-TR-2008-00008 [SPEIS reference “SRS 2007”]) lists 15 locations with likely outcrop points being surface waters; Table 7 from this report should be included in the SPEIS. Identified water bodies include Upper Three Runs Creek, Tims Branch, Crouch Branch, Fourmile Branch and tributaries, Mill Creek, PAR Pond tributaries, L Lake, Steel Creek, Pen Branch, Indian Graves Branch, Meyer's Branch, and the Savannah River Swamp. South Carolina's 2007 Groundwater Contamination Inventory lists 20 contaminant incidents, seven of which are reported to be discharging to surface waters. Of those 20 sites, eight are in assessment phase, eight are in monitoring/remediation/corrective action phase, and one has remediation complete; the remaining three sites, one is inactive and two have been incorporated into another groundwater operable unit. This information should be incorporated in the SPEIS.”

Response: *The proposed and alternative actions considered in the SPEIS would use groundwater for construction and operation purposes. However, the quantities involved would not be significant and there are no potential significant impacts to groundwater quality or quantity. Additionally, SRS does not pump its potable or process waters from contaminated groundwater plumes and no surface waters would be used for the proposed action. Expanding the discussion on groundwater quality, while further defining the site's affected environment, would add little value to the identification and analysis of potential impacts associated with complex transformation.*

14.E.21 A commentor wanted to emphasize that the SRS includes an extensive system of

wetlands, including more than 370 Carolina Bays and wetland depressions.

Response: *NNSA has updated the text in Section 4.8.7.2 of Volume I of the SPEIS to emphasize the commentor's point.*

14.E.22

The following comments were received regarding the SPEIS determinations regarding the impacts of constructing and operating the alternatives Consolidated Plutonium Center (CPC), Consolidated Uranium Center (CUC), Consolidated Nuclear Center (CNC), Assembly/Disassemble/High Explosives Center (A/D/HE), or Consolidated Nuclear Production Center (CNPC) relative to water resources (5.8.5) and biological resources (5.8.7) at SRS:

- These alternatives would increase groundwater use from 2.3 per cent for the CPC to 9 per cent for the CNPC.
- These increases in groundwater withdrawal would likely result in a lower water table which, due to the recent drought, is already lower across the State.
- Lowering the water table could have significant adverse impacts on wetland habitats (Carolina Bays, wetland depressions, bottomland hardwoods, and other wetland types) on and adjacent to SRS.
- Reduction in available wetland habitats could have adverse effects on terrestrial and aquatic resources, including endangered and threatened species at SRS. Surface waters could also be affected by reduced groundwater discharge (further reducing surface water flow volume), increased contaminant/pollutant loading from significantly increased waste generation, and increased surface runoff due to vegetation removal, soil disturbance, and increased impervious surfaces.
- While NPDES permits could be issued or modified and appropriate soil erosion and sediment control measures could be employed during construction, these actions would simply reduce the environmental effects of increased waste generation and increased runoff.
- Statements such as that on page 5-263 that "No impacts on surface water resources are expected as a result of operations at SRS" (CPC) are not supported by the data.
- Several paragraphs above this statement is the statement that an estimated 10.5 million gallons of liquid wastes would be generated during construction; Table 5.8.14-3 shows operations of the CPC at SRS would generate 0.6 tons of liquid hazardous waste and 75,000 gal of non-hazardous liquid waste as well as mixed low level liquid waste and a significant volume of various types of solid waste.
- The CPC alternative has lesser environmental impacts than the other four alternatives; the CNPC facility would substantially increase LLW generation by a factor of about 4."

Response: *The commentor's objections to the alternatives are noted. The*

purpose of the SPEIS is to present the environmental impacts. Information used to support the conclusions of impacts for each alternative has not changed. Impacts to water resources are adequately presented in the text. Further, the SPEIS presents the amount of waste projected to result from construction and operations. The SRS has absolute ownership of the groundwater resources underlying SRS land and therefore has no restrictions on the amount of groundwater it can withdraw annually. However, SRS withdrawal routinely exceeds 100,120 gallons of water per day, and therefore the withdrawal rate is reported to the South Carolina Water Resource Commission. Potable and process water at SRS is pumped from deep, not shallow, aquifers. Utilization of these deep aquifers does not directly impact the hydrology or assimilative capacity of surface streams or the integrity or productivity of wetlands. The South Carolina Department of Health and Environmental Control establishes NPDES permit limitations that protect in-stream water quality (addressing flow volume and contaminant/pollutant loading capacities). SRS discharges for wastewater and stormwater are consistently within their respective permit requirements. Implementation of best management practices, as directed in NPDES permit requirements, are intended to reduce the contaminant/pollutant loading of the receiving State waters.

14.E.23

A commentor stated that the groundwater resources available to LANL from the water production system in Los Alamos County are not correctly represented in the SPEIS. LANL is not limited to the water right as is referred to in the SPEIS. The Department of Public Utilities can provide the amount of water that LANL will require for the Preferred Alternative or other chosen mission.

Response: *The text in Section 4.1.3.4 of Volume I of the SPEIS has been clarified to state that, “LANL does not have a ceiling on its water rights. However, NNSA has implemented a target ceiling of 1,662 acre-feet (542 million gallons [2,050 million liters] per year), or 30 percent of the quantity allowed under the contract with the utility.”*

14.E.24

A commentor stated that in June 2007, the City of Santa Fe reported plutonium in the Buckman wells, which provide about 40 percent of the drinking water to City and County residents. Buffalo are being raised at Picuris Pueblo: what is the level of contamination, if any, on the grass these animals graze?

Response: *The LANL Environmental Surveillance and Compliance Program oversees the monitoring of LANL and surrounding region foodstuffs, air, water, and soil for radiation, radioactive materials, and hazardous chemicals. NNSA also operates an ambient-air-sampling network, AIRNET, which measures environmental levels of airborne radionuclides that may be released from LANL operations. Information regarding these monitoring efforts is published annually in the LANL environmental surveillance report. Over the years, LANL staff has collected a variety of foodstuff samples (fruits, vegetables, grains, fish,*

milk, eggs, honey, herbal teas, mushrooms, piñon nuts, domestic animals, and large and small game animals) from the surrounding area and communities to determine the impacts of LANL operations on human health via the human food chain. These samples are used to compare the levels of radioactive and non-radioactive contaminants in foodstuffs at onsite and perimeter locations to regional levels, to determine trends over time, and to estimate the radiation doses and chemical exposures to individuals who consume them within a fifty-mile radius Region of Influence of LANL. The level of contamination, if any, present on the grass grazed by buffalo at Picuris Pueblo has not been determined by the LANL Environmental Surveillance and Compliance Program sampling process; however, the contaminant dose to a hypothetical offsite resident whose diet consists entirely of foodstuffs and game harvested around LANL is about 2.7 mrem per year in addition to the dose from ambient airborne contaminants received. LANL operational air emissions are maintained at levels below 10 millirems per year. Given the approximate location of Picuris Pueblo about 30 miles distant from LANL in air miles, NNSA believes that there would not be a detectable level of contamination attributable to LANL operations on grazing pastures on pueblo lands.

14.E.25

A commentor stated that “a more illustrative example of the lack of regard for environmental justice and cumulative impacts can be found in Table 4.1.5-2 describing surface water and sediment contamination affected by LANL operations. In that table, the significance of elevated radionuclides onsite and offsite are minimized by noting that runoff events are sporadic. The significance of PCBs detected onsite and offsite also are minimized by indicating wildlife exposure in a few canyons is merely ‘possible.’ Wildlife exposure seems to be underestimated in that Table overall and that is distressing since the text below the Table clearly states that ‘[s]tormwater runoff exceeded the wildlife habitat standard for gross alpha activity of 15 picocuries per liter since the Cerro Grande Fire in nearly all canyons.’ Even more distressing is the fact that the Draft SPEIS contains no analysis of how this actually impacts Santa Clara Pueblo.”

Response: *The fact that stormwater runoff events are “sporadic” is a mitigating factor in radionuclide contamination impacts. The calculation of dose to the maximum exposed individual (MEI) assumes constant year-round residence at the point the dose is calculated. For a sporadic event, such as stormwater runoff, the actual dose that an individual (either human or animal) would receive would be much lower than the calculated dose to the MEI.*

As discussed in comment-response 14.J.1, NNSA evaluated a “special pathways analysis” for assessing how impacts would change compared to nominal modeling results. Based on that analysis, NNSA determined that the average annual dose to those individuals subsisting on all of the special pathways would increase by between approximately 1.1 to 2.7 percent due to these special pathways. A change of up to 2.7 percent would not change any of the conclusions in this SPEIS related to high and adverse impacts.

The following information provides more detail related to the expressed concerns for PCB and gross alpha contamination in stormwater runoff (Environmental Surveillance at Los Alamos During 2005 (LANL 2008): Approximately one-fourth of the storm runoff samples in 2005 contained concentrations of PCBs (Aroclors 1254 and 1260) above human health and wildlife habitat standards. The PCBs are likely laboratory-derived. These PCB concentrations reflect the large sediment load in a storm water runoff event and are due to the chemical affinity of PCBs for the suspended sediment in the runoff. Frequent PCB concentrations above the standards were observed in Los Alamos and Sandia Canyons and at least one PCB detection was observed in nearly all sampled watersheds. Storm runoff concentrations of PCBs were higher than the effective human health standard by a maximum of approximately four times. Sampling by NMED confirmed the presence of PCBs on LANL property.

It should be noted that the New Mexico stream standards for PCBs for aquatic life is 0.014 mg/L and for human health is 0.00064 mg/L (0.64 nanograms/L). The human health standards are levels where ingesting contamination through aquatic life consumption would harm people's health. Although there are no fish on laboratory land, a concern is the transport of PCBs into the Rio Grande by storm runoff events. In 2005, snowmelt sustained streamflow for four consecutive months in Los Alamos Canyon from the Laboratory to the confluence with the Rio Grande.

Despite the detection of PCBs in runoff within the laboratory, available data show no detectable impacts on PCB concentrations in the Rio Grande. Biological monitoring of reservoirs along the Rio Grande drainage does not indicate measurable increases in PCB concentrations due to laboratory operations. Mean total PCB concentrations in fish from Abiquiu reservoir were statistically similar to mean total PCB concentrations in fish from Cochiti reservoir. The statistical similarity in PCBs upstream and downstream of LANL has also been shown for dissolved water concentrations using samples taken with semi-permeable membranes. Additionally, sampling by NMED and LANL of the Rio Grande surface water shows whole water concentrations of PCBs are similar upstream and downstream of LANL (Mullen and Koch 2004). These results indicate there are other sources for PCBs in the Rio Grande.

The NMWQCC livestock watering standard includes a numeric criterion for adjusted gross alpha. Adjusted gross alpha means the total alpha radioactivity, excluding that arising from radon-222, uranium, and (as defined by the Atomic Energy Act) source, special nuclear, and by-product material (NMWQCC 2005). Monitoring results of storm runoff after the Cerro Grande fire have shown widespread gross alpha activities greater than the 15 pCi/L livestock watering criterion. In response to these findings, NMED designated several Los Alamos area drainages as water-quality impaired and added them to the federal Clean Water Act §303(d) list (NMWQCC 2005). The affected drainages with

heightened gross alpha activities are Guaje Canyon, Pueblo Canyon, Los Alamos Canyon, Mortandad Canyon, Pajarito Canyon, and Water Canyon. The 2002 and 2003 surveillance reports showed that the gross alpha activities generally correspond to the suspended sediment concentrations, and upstream gross alpha activities were comparable to on-site gross alpha activities and largely were due to the natural radioactivity in the surface sediments. This natural alpha radioactivity arises from the presence in the sediment material of naturally occurring uranium, thorium, and members of their decay chains. The 2005 gross alpha activities also correspond to sediment concentrations. The upstream gross alpha activities have declined substantially as stream flows are reduced with recovery in the burned areas, which has resulted in reduced concentrations of suspended solids. Although gross alpha activities have progressively declined since the Cerro Grande fire, about 60 percent of the surface water samples collected in 2005 contained adjusted gross alpha activities greater than the 15 pCi/L livestock watering criterion. Gross alpha radioactivity is a general screening measurement of limited value in assessing radiological hazards because specific alpha emitters in the water cannot be identified or quantified.

- 14.E.26** A commentor expressed concern that contaminants originating from the NTS would pollute surface and groundwater resulting in impacts to flora and fauna that utilize the water. The commentor was also concerned that contamination in groundwater from the NTS could adversely affect the Amargosa Desert and Ash Meadows alluvia aquifers.

Response: *Impacts to surface and groundwater at and in the vicinity of the NTS are addressed in Section 5.3.5 of Volume II of this SPEIS. Comment-response 14.A.5 provides information relevant to impacts on flora and fauna. Comment-response 14.E.15 provides information related to monitoring of surface water and groundwater and the impacts from NTS.*

- 14.E.27** A commentor stated that SNL/NM has plans for a thermal treatment unit to burn, in the open air, wastes that contain barium, beryllium, uranium, and depleted uranium that would contaminate the air.

Response: *The Thermal Treatment Facility burns small quantities of waste that are not stable enough to transport offsite for disposal. The facility has an open burn permit from the City of Albuquerque Air Quality Division and is permitted under an existing RCRA Part B Permit. The Thermal Treatment Facility is in full compliance with its permits. The hazardous components treated by this facility are organic solvents and silver.*

- 14.E.28** One commentor stated that SRS is violating its NPDES permit.

Response: *The SRS NPDES permit was modified to remove the mercury limit on March 3, 2005. SRS has not discharged a significant amount of mercury from*

the F-08 outfall. The permit also included a "mercury reopener" clause that would allow SRS to monitor mercury using a SCDHEC-certified method when it became available, submit the data to SCDHEC, and have the mercury limits removed if there was "no reasonable potential" to exceed an instream water quality standard.

Once a DHEC-certified lab for low level mercury analyses became available, SRS submitted samples from the F-08 outfall that showed the concentration of mercury was negligible and presented "no reasonable potential" to exceed an instream flow standard.

14.F GEOLOGY AND SOILS

A commentor stated that the DOE has not fully addressed the new information about a 50 percent increase in the probability that an earthquake will occur at LANL and must do so.

Response: *Seismicity is addressed in the Geology and Soils Sections of Chapters 4 and 5 of Volumes I and II respectfully of the SPEIS. Please refer to comment-responses 14.F.1, 14.F.2, and 14.F.3 for additional detailed information regarding seismicity.*

14.F.1 The following comments were received regarding seismic issues at LANL:

- The May 2007 Probabilistic Seismic Hazard Analysis report estimates a 50 percent increase in the g force of a possible earthquake at LANL. The Draft SPEIS omits an assessment of the new information and how it will impact current, yet alone future, operations. Nevertheless, DOE estimates that the accident with the highest potential impact to a person located off-site would be an earthquake and resulting fire. DOE must assess the new seismic information in the SPEIS. DOE must release a supplemental Draft SPEIS for public review and comment. A very important issue that the Draft SPEIS did not bring attention to is that the 2007 seismic hazard report presented the following recommendations to improve the knowledge of the seismic hazard at LANL:
- Recalculate the seismic hazard using the newly developed NGA ground motion attenuation relationships. The new relationships display significant differences with the ones used in the LANL report.
- Conduct additional detailed/high-precision mapping and displacement measurements along the Santa Clara Canyon (SCC) segment of the Pajarito Fault System (PFS). A purpose for this mapping is to better define long-term displacements and slip rates for the SCC.
- Conduct paleoseismic trenching studies of the SCC to determine the timing and size of prehistoric surface-faulting earthquakes. This may help determine maximum magnitudes and recurrence intervals for rupture scenarios.

- Reevaluate the entire dataset for the Rio Grande Rift fault slip rate analysis using only data for complete seismic cycles and more complete documentation of long-term data (both displacements and applicable time periods). This more robust analysis will likely reduce slip rate uncertainties and result in a more symmetric RGR slip rate distribution.
- Conduct Vs (velocity) measurements of dacite - the reference rock. There are no reliable velocity data for the dacite. Thus the acquired velocity data would confirm the (assumed) value used in this report.
- Conduct additional studies to better constrain kappa. Kappa is a key parameter in assessing the hazard at LANL. Focused efforts should be made to evaluate kappa using data from the LANL seismographic network.”
- The SPEIS must analyze total failure of the existing CMR and CMRR, now under construction, in the event of earthquakes. Fires and explosions along with the building breach and release of all radioactive and hazardous materials must be considered.
- From an environmental perspective the "other issues" that NNSA fails to address with respect to continuing pit production is that the Los Alamos National Laboratory (LANL) facilities slated for the continued production are in a known earthquake zone with at least three earthquakes that have occurred during the Holocene period.

Response: *The data on seismic activity in Chapter 4, Section 4.1.6.3, of Volume I of the SPEIS has been updated with new data from the Final LANL SWEIS (LANL 2008). The estimated human health impacts from postulated facility accidents at LANL, including earthquakes, are described in Chapter 5, Section 5.12 and Appendix D, Section D.4 of Volume II of the SPEIS. These Sections also include a discussion of the significance of the new understanding of seismic hazard based on the 2007 report. The new geological information in the 2007 report indicates that the seismic hazard at LANL is greater than previously understood. The new seismic hazard information will be used to determine what changes are needed for new and existing facilities. In the interim, the LANL contractor developed and NNSA accepted a justification for continued operation which addresses controls on operations of certain nuclear and high hazard operations that mitigate the risks from seismic events (LANL 2008).*

Following NNSA's decisions on transformation and prior to the design and operation of new facilities, NNSA would prepare safety studies in the form of Hazard Assessment Documents and Safety Analysis Reports that take into account the most current seismic information. The results of these safety studies would be incorporated into facility design and operations to ensure protection of the health and safety of workers and the public. The potential impacts of facility accidents are contained in Chapter 5 of the SPEIS.

14.F.2 A commentor stated that SRS is located in an earthquake fault line.

Response: *Section 4.8.6.3 of Volume I of the SPEIS describes the baseline seismic conditions at the SRS. As described in that Section, there are no active faults on SRS, but several fault systems exist offsite. Additionally, none of the faults discussed in that Section are considered “capable,” as defined by the Nuclear Regulatory Commission in 10 CFR 100.23. The capability of a fault is determined by several criteria, one of which is whether the fault has moved at or near the ground surface within the past 35,000 years. In recent years, three minor earthquakes have occurred inside the SRS boundary. In 1985, an earthquake occurred with a local Richter scale magnitude of 2.6. Another occurred in 1988 with a local Richter scale magnitude of 2.0. The most recent earthquake inside the SRS boundary was in 1997 with a Richter scale magnitude of 2.3.*

14.F.3 The following issues related to soil contamination at NTS were received:

- The analysis of soil contamination at the Nevada Test Site in the NTS SWEIS is “insufficient, as has been made clear in the NNSA/Defense Threat Reduction Agency (DTRA) attempt to conduct a high yield non-nuclear explosion, Divine Strake, at the NTS the summer of 2006. The State of Nevada just received (December 2006) a detailed soil analysis for the 1,000 ft radius encompassing the test area of Divine Strake. The State of Nevada will now be able to determine whether the test will conform to the existing air pollution permit for the NTS.
- The SEIS needs to fully disclose or determine the existing soil contamination data throughout the NTS and surrounding areas, especially downwind locations. The soil data ideally should contain the inventory of radionuclides present at various depths of soil, so that there is a complete understanding of the level and nature of the radioactive contamination. At the very least radionuclide analysis of the soil cores to a depth of about 20 centimeters should be detailed. It is this kind of data that is needed to evaluate the Divine Strake explosive experiment.
- Any soil disturbance at the NTS could loft radioactive particles in the air. Only when there is a detailed mapping of the soil, can there be a meaningful environmental evaluation of surface disturbances as a result of any activities at the NTS.
- The SEIS should also explore whether various plants and animals within and near the NTS have concentrations of radionuclides from the above-ground testing period. This is necessary to understand impacts to people, especially indigenous, who either eat or handle various flora and fauna of the region.”

Response: *A discussion on the radiological contamination in soils at the NTS is in Section 4.3.6.2.1 of Volume I of this SPEIS and the assessment of impacts to*

soils is in Section 5.3.6. The level of assessment of impacts resulting from actions at the NTS considered in this SPEIS are considered adequate for a programmatic document. Areas of soil contamination at the NTS are well known and have been delineated and marked, as appropriate. These areas could be easily avoided by any activities proposed under Complex Transformation.

Although the Divine Strake experiment was cancelled by the project proponent, Defense Threat Reduction Agency, the analyses of soils that would have been impacted and the resulting downwind radiological doses clearly demonstrated that the soils at that location did not contain radiological contamination that exceeded what would be expected in “uncontaminated” sites in the southwestern United States.

In compliance with regulations at 40 CFR Part 61, Subpart H, National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities, NNSA monitors and provides annual reports of emissions of radionuclides from the NTS to the Nevada Bureau of Air Pollution Control and the U.S. Environmental Protection Agency. Those emissions are consistently well below the emission standard of 10 mrem/year.

See comment-response 14.A.5 for information on monitoring of plants and animals at the NTS.

14.F.4

A commentor stated that the NTS is an unsuitable site for plutonium or SNM. Another commentor stated that NTS is located in an area of major seismic risk. “In the last 20 years, there have been over 620 earthquakes in and around the NTS, the largest a 5.6 magnitude in 1992. The Draft SPEIS should have considered that earthquakes of 7.0 or greater magnitude are possible in this area. At NTS, substantial surface and subsurface contamination left over from weapons testing activities already exists. Even a small additional increment in radiological contamination, especially groundwater contamination that may be associated with the proposed plutonium processing and storage operations, is unacceptable.”

Response: *As noted in Section 4.3.6.3 of Volume I of this SPEIS, NTS is located in a region with relatively high seismicity. Section 5.3.6.2.1(Volume II) states that all new facilities and building expansions would be designed to withstand the maximum expected earthquake-generated ground acceleration in accordance with DOE Order 420.1B, Facility Safety, and accompanying safety guidelines. Thus, site geologic conditions would not likely affect the facilities.*

Section 5.3.5 of Volume II of this SPEIS addresses potential impacts to surface and groundwater. The level of analysis in this SPEIS is considered appropriate for a programmatic document. If a plutonium processing and storage facility were established at the NTS, modern engineering and administrative controls would preclude release of radiological or other hazardous material to the

environment, including from most foreseeable accidents. At the NTS it is highly unlikely that even if there were a release to the environment that any contamination would reach the groundwater. Two factors mitigate against such a result: 1) The distance between the ground surface and groundwater ranges from 79 meters (260 feet) in the extreme northwest part of the NTS to about 160 meters (525 feet) beneath Frenchman Flat and Yucca Flat, to more than 610 meters (2,000 feet) under the upland portions of Pahute Mesa; and 2) the evaporation rate is so great that surface moisture, and any contaminants it may be carrying, infiltrates only a few inches below the soil surface.

14.G BIOLOGY

A commentor expressed concern that open air burning will be detrimental to natural biological resources and systems.

Response: *Air emissions from NNSA sites are regulated under permits from the various states. NNSA conducts air monitoring and recordkeeping to ensure compliance with provisions of the air permits. As noted in comment-response 14.D.2, NNSA is striving to reduce or eliminate open burning at its sites.*

14.G.1 A commentor stated that the bald eagle has been removed from the Federal list and Table 4.8.7-1 should show it as "Not Listed."

Response: *The comment is correct. The U.S. Fish and Wildlife Service announced the delisting of the bald eagle (*Haliaeetus leucocephalus*) in the July 9, 2007 Federal Register (FR 72 37346). The texts in Section 4.8.7.4 and Table 4.8-1 in Volume I have been corrected.*

14.G.2 With regard to Section 4.8.7.5, Biological Monitoring and Abatement Programs, a commentor stated that survey results referenced here should be summarized for the SPEIS. The reference given, (SRS 2007), is not listed in the References Section (Chapter 12).

Response: *Survey results summaries have been added as requested. The commentor is correct, and the cited document has been added to Chapter 12, References.*

14.H CULTURAL RESOURCES

The following comments were received relative to cultural resources:

- The proposed action would not impact any Navajo traditional cultural properties, lands, or historical properties.
- Impacts to cultural resources must be evaluated.
- The rights of Native Americans (specifically the Pueblo of San Ildefonso) and their ancient and sacred spaces should be granted the same

protection as national monuments, parks, etc. and not subject to construction of facilities for mass destruction.

Response: *NNSA notes that Complex Transformation will not impact any Navajo traditional cultural properties or historical properties.*

The Complex Transformation SPEIS provides an appropriate level of analysis of cultural resources at a programmatic level. Prior to implementation of any decisions regarding the programmatic alternatives, NNSA would conduct any needed site or project specific analyses, including cultural resources surveys and consultations with potentially affected American Indian Tribes and State Historic Preservation Officers pursuant to Section 106 of the National Historic Preservation Act and regulations at 36 CFR 800, Protection of Historic Properties; Executive Order (EO) 13175 Consultation and Coordination with Indian Tribal Governments; EO 13007 Indian Sacred Sites; EO 11593 Protection and Enhancement of the Cultural Environment, and DOE American Indian and Alaska Native Tribal Government Policy.

14.H.1

A commentor noted that impact results when culturally appropriate mitigation is not taken or positive benefit not made to Western Shoshone victims to offset adverse impacts. Another commentor questioned what would be done if an archaeological resource was discovered during construction.

Response: *NNSA has implemented a comprehensive Cultural Resources Management Program (CRMP) for the NTS. Under that program, significant cultural resources (including sites that may be considered Traditional Cultural Properties because of their significance to American Indian tribes) are identified and protected. If adverse impact to a significant cultural resource cannot be avoided by an activity at the NTS, NNSA follows the consultation process prescribed under Section 106 of the National Historic Preservation Act. In addition, NNSA implements government-to-government consultation with American Indian tribes with cultural affiliation to the NTS through the Consolidated Group of Tribes and Organizations, including four tribes of the Western Shoshone. That consultation includes use of American Indian participation in any activity that may be necessary to mitigate adverse effects to significant prehistoric cultural resources or traditional cultural properties.*

14.H.2

A commentor stated that the SPEIS did not include information regarding indigenous peoples' perspectives of radiation in general and what irradiation (exposure) to plants, game, and minerals means to them.

Response: *As part of the NTS SWEIS (DOE 1996b), DOE invited participation of the Consolidated Group of Tribes and Organizations (CGTO) in development of the document. The CGTO consists of 16 American Indian tribes with a demonstrated cultural affiliation with the NTS, including several Shoshone and Southern Paiute tribes. The American Indian perspective is reflected in the NTS*

SWEIS, particularly in Appendix I. Excerpts from that appendix provide a brief overview of the Indian perspective on radioactivity.

“Radioactivity was interpreted as being the angry action of a powerful rock that had been quarried without its permission and had its power used for purposes it did not agree to. Now the remains of the rock (radioactive waste) are angry and it is taking its anger out on things around it. Plants, animals, people, water, and even the air itself can be hurt or even killed by the radiation from the angry rock. Indian people express the belief that past radiation releases have contaminated plants and animals traditionally used for foods and medicines. Spiritual people believe that they can see and feel radiation, that it has unique colors. This is why they can neither eat nor collect some plants, animals, and minerals in some areas. It is now impossible for Indian people to go to certain places, do certain ceremonies, and eat certain foods because radiation from the angry rock has been released.”

“[A]ir can be destroyed by radiation that has been released by the angry rock, thus causing pockets of dead air. There is only so much alive air which surrounds the world. If you kill the living air, it is gone forever and cannot be restored. Dead air lacks the spirituality and life necessary to support other life forms. Airplanes crash when they hit dead air. One member of the CGTO compared this Indian view of killing air with what happens when a jet flies through the air and consumes all of the oxygen, producing a condition where another jet cannot fly through the air. The atomic blast consumes the oxygen like the jet, killing the air. While this comparison of the Western science view of dead air from burning seems close to the Indian perspective, the latter has a ‘life force’ component that makes killing air more significant than just consuming its natural components.

“Some Indian people who were present during the aboveground atomic blasts believe that the sickness they have today came from the radiation. To some of these people, the effects of the radiation were in addition to what happened when the air itself was killed. Some elders today say that even when the plants survive the effects of radiation, the dead air killed them or made them lose their power, their spiritual power to heal things.”

14.I SOCIOECONOMICS

Commentors expressed concerns about socioeconomic analysis of the SPEIS. Specifically, they were concerned that:

- The workers at Y-12 need and deserve security as well as jobs that pay well, support the well-being of the community, and do not threaten their health or environment.
- There is a need to offer comparable jobs to workers in the nuclear weapons industry if they are laid off.

- There could be severe negative effects on the regional and local economy if facilities are closed.
- LANL is an integral part of the regional economy including its important role as a source of employment.
- Complex Transformation would provide employment but jobs are not as important as the continued existence of the globe.
- Funding for Complex Transformation could be used for socioeconomic improvements within the United States.
- Socioeconomic justice for the native people in New Mexico should be an over-riding concern for the SPEIS analysis.
- Socioeconomic impacts associated with relocation of NNSA flight testing operations from Tonopah Test Range could affect the economy and impact the Central Nevada area, as a whole.
- The loss of jobs at Tonopah would result in a subsequent loss of community services as some workers at TTR are also volunteers in the community, and that relocating the flight testing mission from TTR or operating the range in campaign mode would result in significant negative socioeconomic consequences.
- There is no socioeconomic in death.
- Nye County needs the jobs provided by Complex Transformation.
- A commentor stated that the future of the community is heavily dependent upon the future of LANL.
- Socioeconomic is of major importance to the Y-12 region.
- The disparity between the supposed positive economic impacts from the DOE sites in NM and the actual negative socioeconomic status that many counties in the state are experiencing is a large problem.
- Most supporters believe that economic growth will occur as a result of Complex Transformation but the opposite is more likely.
- The mitigation of job losses through investing in city infrastructure as well as encouraging and facilitating start-up companies is a factor that should be included in the SPEIS analysis.
- A disarmament alternative would not end work at Y-12 and, in fact, workers could be used to dismantle the nuclear weapons backlog and safely clean up past environmental contamination.
- The Pueblo people were not adequately compensated for the land the DOE seized from them.

Response: *As stated in the SPEIS, Complex Transformation is expected to result in a reduction in the number of workers involved in the nuclear weapons complex over time. However, in general it is expected that this reduction will occur over a long period of time as missions and facilities are readjusted within the Complex. Most reductions will be able to be accommodated by attrition of the workforce through retirements and other voluntary means. NNSA seeks to avoid involuntary reductions among its federal and contractor workforces if possible.*

Because the total number of jobs adversely affected by Complex Transformation is expected to be small, the effect on most local and regional economies would be minor. A notable exception would be the socioeconomic impact of relocating NNSA Flight Operations from TTR to another site. Section 5.15 of Volume II of the SPEIS addresses the potential socioeconomic impacts of moving flight operations from TTR. This Section has been updated with information provided by Nye County to ensure a more accurate estimate of the impacts. As a response to comments NNSA has added another Flight Test Alternative to the SPEIS which slightly reduces the existing workforce, reduces the footprint at TTR, and entails a new lease with the U.S. Air Force. This Alternative is described in Section 3.10 and the expected environmental impacts are described in Section 5.15. In addition, a substantial additional amount of socioeconomic analysis was added to Section 5.15 of Volume II of the SPEIS.

The United States' possession of nuclear weapons and the budget necessary to support the stockpile is a matter of national policy set by the President and the Congress. Complex Transformation is NNSA's vision for the most effective means of fulfilling the missions assigned to it by the Congress and the President. The Constitution requires that decisions on prioritization of federal expenditures be established by the Congress.

The adequacy of compensation for any land the government acquired from the Pueblo is beyond the scope of the SPEIS. See also the discussion in comment-response 14.J.5 for a related discussion.

- 14.I.1** One commentor stated that engaging in the development of new nuclear weapons mere miles from Las Vegas, Nevada, the center of commerce in Nevada threatens the economy of the entire state. Commentors stated that if the number of jobs fall as a result of consolidation or transfer of functions, more socioeconomic analysis of community disruption, housing, schools and services is needed.

Response: *The SPEIS analyzes the socioeconomic impacts of jobs lost for all alternatives throughout Chapter 5, as applicable to each alternative. An assessment of impacts to housing, schools, and services is presented in situations where there is the potential for significant impacts. For example, at TTR, where the transfer of the Flight Test mission could have significant socioeconomic impacts, the analysis includes a more detailed analysis of community disruption, housing, schools, and services. The city of Las Vegas is beyond the region of influence analyzed in the SPEIS.*

- 14.I.2** Commentors stated that other lab work, including work on non-proliferation,

would be adversely affected if there were no weapons work at LANL.

Response: *The weapons work at LANL accounts for most of the lab employment, and this comment is noted. However, there are no proposals or alternatives in the SPEIS that would eliminate all weapons work at LANL. Even if a CNPC were located at a different site, some of the laboratories nuclear weapons work, e.g., design activities, would continue.*

- 14.I.3** A commentor stated that the total impact, in dollars, on the LANL region of influence (ROI) for the plutonium phase-out is not provided.

Response: *Additional discussion was added to Section 5.1.9.5 in Chapter 5 of Volume II of the SPEIS to address the total impact in dollars on the ROI.*

- 14.I.4** A commentor stated that the socioeconomic analysis for LANL seems to be missing an analysis of the overall downsizing of the DOE complex and possible impacts of uncertainty regarding the LANL mission on the ROI.

Response: *An analysis of the potential effects on LANL's mission and economy of the surrounding region was not conducted as the size, timing and probability of any potential downsizing are uncertain. An analysis of these factors would have been highly speculative at this time. Because of the speculative nature of any such analysis, the information derived from such an analysis would not have been useful in the assessment of impacts to the ROI.*

- 14.I.5** A commentor stated that the socioeconomic impact analysis does not address the impact on the LANL ROI of additional security measures. Another commentor added that additional security access control implemented at LANL has restricted access to tourist and recreational activities and adversely effected Los Alamos County's economic development plans.

Response: *An analysis of additional security measures on the ROI (including but not limited to the tourism industry and recreational activities) was not conducted as the correlation between the additional security measures and numerous economic variables associated with the ROI are indirect and unclear. An analysis of this magnitude would have been qualitative and therefore highly speculative. The information derived from such an analysis would not have been useful in the assessment of impacts to the ROI as the analysis itself would be unable to provide an adequate portrayal of the potential impacts to the regional economy and laboratory mission as determined by the implementation of additional security measures at LANL. NNSA understands that the public has concerns about changes in the site's security plans that could impact the public's ability to travel across the site to attractions such as Bandelier National Monument or the ski area. These concerns are noted and NNSA has been working with Los Alamos County and others to address such issues and will continue to weigh these impacts against site security concerns. Local*

transportation is discussed in Chapter 5, Section 5.10, Transportation, and Section 5.13, Cumulative Impacts, of the LANL SWEIS.

14.J ENVIRONMENTAL JUSTICE

Commentors expressed environmental justice concerns in regard to the proposed actions at TTR including:

- The adverse effect on the environment that resulted from use of nuclear weapons;
- The citizens of Nye County are dependent upon the jobs provided by the DOE and taking away those jobs could be considered an environmental justice issue; and
- Environmental justice issues related to Native Americans near TTR.

Response: *The impacts of the use of nuclear weapons are outside the scope of Complex Transformation. NNSA has no role in decisions involving the use of nuclear weapons; only the President can decide to use nuclear weapons. In addition, NNSA is not aware of any plans to utilize nuclear weapons at TTR.*

NNSA has not made a decision as to the future location of flight test operations. Once the Complex SPEIS has been completed, the environmental impacts of the various flight test operations alternatives will be evaluated along with other cost, technical and risk analyses prior to reaching a decision as to the location of these operations. This decision, along with other decisions will be issued in a Record of Decision.

The socioeconomic impact analysis (Section 5.15.4.2 of Volume II of the SPEIS) has been revised to include relevant data from a report provided by Nye County (UN 2007). This will more accurately reflect potential impacts on Nye County of the various flight test alternatives.

Additional information regarding TTR may be found in the comment-responses 6.C.1 through 6 and 14 J 5 and in the SPEIS Sections 3.10, 4.4 (Volume I), 5.4, and 5.15 (Volume II).

14.J.1 The following comments were received relating to environmental justice:

- Native Americans have borne many of the highest costs of U.S. nuclear dominance and are disproportionately affected by NNSA's radioactive contamination because of their lifestyle.
- The environmental justice analysis is paltry.
- The SPEIS underestimates the impacts of its proposed actions on the Santa Clara Pueblo, including multiple exposures and cumulative impacts, in contravention of NEPA.
- Redevelopment of the nuclear weapons complex would adversely affect the environment and lives of Native Americans whose lands are widely

used for radioactive storage, uranium mining, and for testing of ICBMs, despite their protest.

- An impact of a severe accident could well be the extinction of the way of life for Native Americans (particularly the Santa Clara Pueblo).
- If the land becomes contaminated, indigenous peoples' way of life will come to an end.
- Damage to the health of tribal members would result from possible exposure to radiation through exposure pathways unique to tribal lifestyle from an accidental or planned venting or other release of radiation or toxic materials.

Response: *As discussed in Appendix C, Section C.1.3, the public health consequences of radionuclides released to the atmosphere from NNSA sites for the SPEIS analysis use the maximally exposed individual (MEI) and the entire population residing within 50 miles. Calculations were made using scientific models for radiological releases associated with both normal operations and accidents. The models implement a steady-state Gaussian plume atmospheric dispersion model to calculate concentrations of radionuclides in the air and on the ground and uses Regulatory Guide 1.109 (NRC 1977) food-chain models to calculate radionuclide concentrations in foodstuffs, and subsequent intakes by humans.*

As a result of those analyses, while the consequences of accidents could be severe on surrounding population, NNSA did not conclude that any high and adverse impacts to the MEI or the surrounding populations for normal operations and accidents would occur, given consideration of accident probabilities. Moreover, because of the conservative assumptions that were used to define the dose to the MEI (for example, the analysis assumes the MEI would live 24 hours a day, 7 days a week, and 52 weeks a year at the place outside of the facility with the highest dose from normal operations), NNSA does not think any actual person could receive a dose comparable to the MEI dose.

Based on the conclusions that no high and adverse impacts would occur, NNSA determined that no additional analyses is needed related specifically to environmental justice. This was based on the conclusion that if there were no high and adverse impacts to any populations, then there would not be any disproportionately high and adverse human health and environmental impacts on minority or low-income populations. NNSA notes that the LANL SWEIS (LANL 2008) prepared a "special pathways analysis" for operations at LANL, for the purpose of assessing how much impacts would change compared to nominal modeling results. Based on that analysis, NNSA determined that the average annual dose to those individuals subsisting on all of the special pathways would increase by between approximately 1.1 to 2.7 percent due to these special pathways. A change of up to 2.7 percent would not change any of the conclusions in the NNSA related to the lack of disproportionate high and adverse impacts. For example, at LANL, the highest doses to the MEI and 50-

mile population from any facility operations were 0.23 person-rem and 0.77 mrem, respectively. If these doses were increased by 1.1 to 2.7 percent, these doses would be 0.23-0.24 person-rem (for the 50-mile population) and 0.78-0.79 mrem (for the MEI).

- 14.J.2** A commentor stated that the environmental justice methodology used is flawed. A commentor specifically stated that the definitions of minorities and low-income were not accurate.

Response: *Under Executive Order 12898, DOE is responsible for identifying and addressing potential disproportionately high and adverse human health and environmental impacts on minority or low-income populations. Minority persons are those who identify themselves as Hispanic or Latino, Asian, Black or African American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, or multi-racial. Persons whose income is below the Federal poverty threshold are designated as low income.*

As discussed in Chapter 4 (Volume II), the demographic profile of the potentially affected counties surrounding specific sites shows that LANL, SNL/NM, WSMR, and TTR had the highest percentage (5.6, 6.0, 2.1, and 1.5 percent respectively) of Native American populations of the nine sites analyzed in the Draft Complex Transformation SPEIS.

In response to comments on the Draft SPEIS, additional analysis was added to Chapter 6, Cumulative Impacts, to address the potential for environmental justice impacts with respect to native people at LANL, SNL/NM, WSMR, and WIPP. DOE defines low-income populations in terms of the Census Bureau's statistical poverty levels. This approach is consistent with EPA's, as discussed in the Agency's "Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis" (EPA 1998). DOE's definition of "low-income" has been added to the Glossary of the Final SPEIS.

- 14.J.3** A commentor stated that increased pit production at TA-55 would increase the potential for contamination releases which could drain into the tribe's Sacred Area, which could have disproportionate negative impacts on the tribal members and resources.

Response: *Section 5.1 of Volume II of the SPEIS presents the potential impacts at LANL from increased pit production. As shown in Table 5.1.11-2, the impacts to the MEI and 50-mile population would be essentially zero compared to the normal background radiation exposures. With respect to potential accidents, as shown in Table 5.1.12-2, accident risks to the MEI and the 50-mile population would be less than 1 latent cancer fatality for all accidents analyzed.*

- 14.J.4** A commentor stated that NNSA omitted assessing the environmental justice

impacts of the Complex Transformation SPEIS proposal for operations at its three sites in New Mexico, especially where the Regions of Influence overlap. DOE must assess the environmental justice and cumulative impacts of the three DOE facilities located along the Rio Grande Corridor in a supplemental Draft Complex Transformation SPEIS. The public must have the opportunity to provide comments before the Complex Transformation SPEIS is finalized.

Response: *Use of a 50-mile radius for analyzing radiological impacts via the air pathway is consistent with other analyses performed by DOE and NRC. Nonetheless, in response to comments on the Draft Complex Transformation SPEIS, additional discussion was added to Chapter 6 (Volume II), Cumulative Impacts, to address the potential for cumulative environmental impacts with respect to people in New Mexico from operations at LANL, SNL/NM, WSMR, and WIPP. Additionally, NNSA performed an analysis with an extended region of influence of 100 mile. It found that the change in population dose amounted to only a few percent. A description of this analysis was added to Appendix C for normal operations and to Appendix D for accidents. Effects beyond 50 miles are expected to be small compared to those within 50 miles and would not be expected to pose a significant risk to any person regardless of their affluence or ethnicity. Transportation and disposal of wastes from the alternatives are analyzed in Chapter 5, Section 5.10 (Volume II).*

Adding a figure that shows the overlap of minority and low-income populations would not change the environmental justice analysis presented in the SPEIS. It is understood that such an overlap does exist (that many of the people with low incomes are also members of a minority), but this overlap would not change the analysis with respect to whether these populations are disproportionately affected by the impacts associated with the different alternatives analyzed in the SPEIS.

14.J.5

Commentors stated that the SPEIS must include an explanation of how the NNSA can ignore an agreement between the U.S. government and the Western Shoshone, which is a treaty between nations and the highest law of the land. The commentors stated that NNSA needs to address the decisions of the Organization of American States Inter-American Commission on Human Rights (IACHR) and the United Nations Committee to Eliminate Racial Discrimination (UNCERD) which both found the U.S. to have violated the fundamental human rights of the Western Shoshone people with regard to the Indian Claims Commission Proceedings which led to the Supreme Court decision. Commentors cited specific concerns, including:

- Violations of Western Shoshone territorial sovereignty from trespass by the US in development of NTS for nuclear testing, hydrodynamic testing, high-explosive testing, flight testing and other major environmental testing;
- Violation of Western Shoshone territorial sovereignty and peace treaty

- through trespass by the DOE and the US Air Force at the NTS and TTR;
- Disruption of foreign relations between Newe Sogobia (Western Shoshone) results when peace treaty is violated by US; Violation of the Western Shoshone National Council (WSNC) Nuclear Free Zone Resolution 01-WSNC-95;

Response: *The Western Shoshone have long claimed about 24 million acres of land in Nevada based on alleged violations of the Ruby Valley Treaty. In the early 1950's, the Western Shoshone filed a claim concerning these lands under the Indian Claims Commission Act of 1946 (ICCA). Under the ICCA only monetary compensation could be made to a tribe for unkept treaty promises; land or other remuneration were not available remedies. In 1962, the Commission ruled that all Western Shoshone land titles had been extinguished. In order to establish valuation for a monetary award, the Commission set July 1, 1872, as the date the land was taken. In 1976, the Commission awarded the Western Shoshone \$26 million as payment for the land. This payment was refused by the Western Shoshone who argued that rejection of the money meant that they had not been compensated and their claim to the land was still valid.*

This issue has been litigated on several occasions. In 1985 the U.S. Supreme Court held that the payment had been made in accordance with the ICCA, which constituted full and final settlement for the land claim. Whether the Western Shoshone accept the payment had no effect on the ruling and the land was determined to belong to the United States. In a subsequent challenge the U.S. Court of Appeals for the Ninth Circuit followed the Supreme Court's decision. In response to a subsequent appeal, the U.S. Supreme Court refused to hear the case, letting the appellate court decision stand (DOE 1996b).

Neither of the bodies mentioned in the comment have any jurisdiction or authority over the United States, its agencies or citizens. The U.S. Supreme Court ruled on the claims of the Western Shoshone. NNSA is aware of significant disagreement with the rulings of the U.S. Supreme Court, particularly by the Western Shoshone.

- 14.J.6** Commentors stated that LANL has spread radionuclides and would continue to accelerate the spread of hazardous contamination to a 57,000 person low income and minority populace in violation of all principles of Environmental Justice.

Response: *Impacts at LANL associated with the existing operations are presented in Section 4.1 (Volume I); impacts of the alternatives are presented in Chapter 5 (Volume II), Sections 5.1, 5.10, 5.11, 5.12, 5.13, 5.14, 5.16, and 5.17. Based on the analyses in those Sections, NNSA does not believe that LANL has caused disproportionate high and adverse impacts to any population group.*

- 14.J.7** A commentor stated that environmental racism results by the effort of the United

States to bring commercial nuclear reactor waste to Newe Sogobia, targeting the Western Shoshone people's land.

Response: *The commentor is referring to the Yucca Mountain Repository Project, which is not a part of this transformation proposal. This SPEIS, in Section 6.3.2 of Volume II, addresses cumulative impacts that could result from complex transformation activities proposed for the Nevada Test Site and with operation of the Yucca Mountain Repository.*

14.J.8

Some commentors stated that cumulative impacts result from additional burdens created when Western Shoshone land use is further reduced, plant resources are diminished, non-Native American presence increases and additional cultural resources are disturbed or removed. The commentors stated that the ethnic identity of the Western Shoshone people in land is diminished.

Response: *Complex Transformation would not impact the use of Western Shoshone lands or diminish plant resources on those lands. All construction and operations that would occur at the NTS under Complex Transformation would be confined to the site. Lands under the ownership or jurisdiction of other agencies, organizations, or individuals would not be used for Complex Transformation.*

14.K**HEALTH AND SAFETY**

Commentors expressed concern about health and safety issues associated with Complex Transformation, including:

- The standard method of assessing radiation risk is inadequate and based on the wrong models.
- NNSA needs to reveal the full extent and health consequences of human exposure to depleted uranium, tritium and other toxic releases from LLNL Site 300.
- Site 300 is not an acceptable location for open-air tests involving tritium due to the location of Tracy, CA.
- Due to the Shoshone's unique lifestyle they are exposed to more radiation than the average American citizen living near the TTR and the Nevada Test Site.
- U.S. military personnel are being exposed to radiation and should receive medical treatment at no cost to them.
- The public health issues related to Complex Transformation should be more fully addressed.
- Those suffering from health issues as a result of Complex Transformation should be compensated.
- The No-production Alternative would speed the improvement of

environmental public health conditions.

- There is a general disregard by DOE for the health and safety of the 7 million people in the 50-mile radius at LLNL.
- Many Americans have died from radioactive fallout, downwind or downstream of not only nuclear weapons testing but also the mining and processing of uranium, as well as indigenous people at Bikini Atoll.
- There are serious health impacts associated with radioactive materials at LLNL.
- If the government “fails to serve your constitutional actions and does not stop this very real threat to the health and well-being of the people of New Mexico then the citizens “shall not hesitate to file criminal charges and bring civil action against you personally in your professional capacity for the crimes against the people of New Mexico and the world.”

Response: *Uranium mining is not within the scope of Complex Transformation. NNSA possesses sufficient uranium to meet its needs for many years. NNSA notes the concerns for human health and safety of many commentors. Complex Transformation facilities would be designed and operated to minimize risk to both workers and the general public during normal operations and in the event of an accident. Benefiting from decades of experience, NNSA employs modern processes and manufacturing technologies and utilizes an oversight structure for safety, environmental protection, and management oversight. Appendix C, Section C.1.3 discusses the methodology that NNSA employed to estimate potential radiological impacts for normal operations, and Section C.3.3 discusses the methodology for accidents. The methodologies used are consistent with generally-accepted methods, as well as the CEQ and DOE guidance related to estimating potential impacts to health. The comment regarding the inadequacy of estimating risk from radioactivity is noted. See also comment-responses 14.K.1 through 14.K.20.*

Nuclear weapon testing is not evaluated as part of Complex Transformation. Potential impacts to surface water and groundwater at the Savannah River Site are addressed in Section 5.8.5 of Volume II of the SPEIS. Impacts to human health and safety are addressed in Section 5.8.11 of Volume II of the SPEIS.

NNSA understands the concerns of some American Indians living in the areas relatively close to the NTS. The lifestyle of these indigenous people is such that they may consume more wildlife and natural plant material, both as food and medicine, than non-Indian residents of the region. However, based on the best available data, the levels of radioactivity in these natural food and medicine sources at the NTS are well within all health and environmental standards. Please see comment-responses 14.A.3 and 14.A.5 for more detailed information regarding this issue.

DoD is responsible for health and safety of members of the U.S. military. NNSA

is responsible for the health and safety of its workers and the public. For additional information regarding compensation for health impacts due to exposure to radioactivity, please see comment-responses 6.C.5 and 14.K.2.

As noted in Section 4.1.11.1 of Volume I of the SPEIS, the total annual dose to an average resident living near LANL from all pathways is less than 0.1 mrem. This includes doses from inhalation, ingestion of food and water, and direct exposure. No observable health effects are expected from these doses. Radiological impacts to the maximally exposed individual living offsite from operation of the alternative with the greatest impact would be less than 1 percent of background radiation, as noted in Section 5.1.11 of Volume II of the SPEIS.

14.K.1 The following comments were received regarding human health:

- The risks to human health are not worth the national security benefits.
- Nuclear wastes and radiation are not safe.
- The SPEIS should consider impacts to more sensitive radiological receptors/most vulnerable population. In particular, infants, children, pregnant women, immune-compromised and chronically ill persons must be considered as they would be affected differently by radiation exposure.
- In the context of clean up and storage of nuclear waste at Department of Energy sites, the risk to a pregnant woman farmer, the fetus, and her children should be evaluated, rather than Reference Man.
- The SPEIS fails to consider E.O. 13045 for the Protection of Children. Numerous landfills with hazardous and radioactive waste are used at LANL and Sandia National Laboratories, without regard to the safety of the children in surrounding communities.

Response: *The SPEIS presents the environmental impacts of the reasonable alternatives, including the impacts to human health. The ROD will discuss the various factors that NNSA considered in its decision-making process. The comment that nuclear wastes and radiation are not safe is noted.*

Appendix C, Section C.1.3 discusses the methodology that NNSA employed to estimate potential radiological impacts from normal operations, and Appendix C, Section C.3.3 discusses the methodology for accident analyses. The methodologies used are consistent with generally-accepted methods, as well as the CEQ and DOE guidance related to estimating potential impacts to health (see also comment-response 14.K.4 for more information). Although the methodology employed does not consider the impacts to more vulnerable populations, conservative assumptions have been made to ensure that potential radiological impacts are not underestimated. For example, to calculate the radiological dose to the maximally exposed individual (MEI), the SPEIS methodology assumes that the MEI resides at the site boundary 24 hours a day,

7 days a week, 365 days per year. This conservative assumption would exceed the dose and impact to sensitive radiological receptors/most vulnerable population including infants, children, and pregnant women, immune-compromised and chronically ill persons.

14.K.2

Commentors stated that workers and those living in communities around nuclear facilities with illnesses associated with nuclear weapons work should be compensated for contamination they have received over the years.

Response: *The DOE Former Worker Medical Surveillance Program, otherwise known as the Former Worker Program (FWP), provides for the conduct of medical screenings for former employees to identify adverse health conditions that may have resulted from working at DOE facilities (see “The U.S. Department of Energy Former Worker Medical Surveillance Program, January 2008, available at: http://www.hss.energy.gov/healthsafety/fwsp/formerworkermed/fwp_report.pdf). Mandated by the Congress, the FWP conducts preliminary site assessments to identify groups of former at-risk Federal and contractor workers and DOE site-specific exposures. It also provides medical screening, including examinations, to check for adverse health effects that could be related to occupational exposures to radiation, noise, beryllium, asbestos, silica, lead, cadmium, chromium, and solvents.*

The program, managed by the DOE Office of Health Safety and Security, uses independent health experts through cooperative agreements held by consortia of universities, labor unions, and commercial organizations throughout the United States with expertise in administration of medical programs. Initiated in 1996, the FWP now provides medical screening services at all DOE sites for the more than 600,000 former construction and production workers who were involved in the nuclear weapons program. As of November 2007, over 455,000 former workers have been contacted, and over 51,000 comprehensive medical screening examinations have been provided to those who volunteer to participate in the program. In addition, follow-up re-screening exams have been provided to over 5,700 former workers.

In 2000, the Congress passed the Energy Employees Occupational Illness Compensation Program Act (EEOICPA), administered by the Department of Labor (DOL), to compensate current and former workers for illness and injuries that resulted from their work at DOE facilities. The DOE FWP complements EEOICPA, as it provides DOE workers with medical evaluations conducted by expert occupational medicine physicians and laboratories that provide both claimants and the claims evaluators with defensible information for decision-making about the appropriateness of compensation. With respect to compensating persons living in communities around nuclear facilities with illnesses associated with nuclear weapons work, on October 5, 1990, the Congress passed the Radiation Exposure Compensation Act (“RECA” or “the Act”), 42 U.S.C. § 2210 note, providing for compassionate payments to individuals who contracted certain cancers and other serious diseases as a

result of their exposure to radiation released during above-ground nuclear weapons tests or as a result of their exposure to radiation during employment in underground uranium mines. The 1990 Act provided fixed payments in the following amounts: \$50,000 to individuals residing or working "downwind" of the Nevada Test Site; \$75,000 for workers participating in above-ground nuclear weapons tests; and \$100,000 for uranium miners. Since that time, the United States Department of Justice has developed implementing regulations to resolve claims in a reliable, objective, and non-adversarial manner, with little administrative cost to the United States or to the person filing the claim.

14.K.3 The following comments were received regarding the human health analysis in the Draft SPEIS:

- The SPEIS underestimates radiological impacts and should address all potential exposures, including both air and liquid releases. The cumulative doses of radiation must be included, including radiation exposures from locally grown food.
- Several problems in the analysis that give a false impression that Complex Transformation would have limited impact: Risk estimates are calculated for each alternative at each site for each potential exposure separately (waste exposure, water exposure, air emissions). It is clear that a person receives a cumulative dose of radiation from all sources concurrently and that to handle each exposure risk separately in the final risk estimate for cancer results in a much lower risk calculation. While a collective risk is calculated for the general population this is a risk estimate that reflects the risk from radiation exposures through locally produced food. Again this is dealing with risks attributed to various exposure media separately. Ultimately this inappropriate methodology leads to the final risk estimates for latent cancers to appear much more trivial than the true risk.”

Response: *As discussed in Appendix C, Section C.1.3, the computer model that was used to calculate radiological impacts (CAP 88) implements a steady-state dispersion model to calculate concentrations of radionuclides in the air and on the ground and uses Regulatory Guide 1.109 (NRC 1977) food-chain models to calculate radionuclide concentrations in foodstuffs (vegetables, meat, and milk) and subsequent intakes by humans. In addition, the assumed intake of food, water, soil and sediment represent exposures to a maximally exposed individual (MEI) who lives full-time in a location with the highest soil and sediment contamination and eats only foods with the highest calculated concentrations of each contaminant. These assumptions provide a conservative estimate of dose to ensure that a real person would necessarily have a lower contaminant intake and health risk than the hypothetical MEI represented by the analysis.*

14.K.4 The following comments were received regarding radiation exposure:

- DOE tolerates an unacceptable level of radiation exposure for both workers and the public and that the SPEIS should address more recent info on health effects from low radiation doses which shows higher impacts.
- Recent reports (BEIR VII) indicate that one cancer could result from 100 people that are exposed to a one-time dose of 0.1 Sievert (10 rem) of low-level radiation above background.
- The Draft SPEIS states that acceptable and safe amount of radiation exposure to neighboring communities is 0.05 Sievert (5 rem) per year.
- Results of the largest cohort study of cancer risk among radiation workers that used exposure and health data from 15 countries that included over 5.2 million person years of follow-up found that the excess relative risk for all cancers excluding leukemia were statistically compatible with but higher than the BEIR VII risk estimate used to set the assumptions of cancer risk for the SPEIS.
- Radiation exposure can also cause nonfatal cancers and genetic disorders, yet the SPEIS only estimates potential fatal cancers and that omitting nonfatal cancers and/or genetic disorders is a serious matter.

Response: *The National Research Council (NRC) prepared a series of reports to advise the U.S. Government on the health consequences of radiation exposures. The most recent of these, Health Effects from Exposure to Low Levels of Ionizing Radiation, BEIR VII-Phase 2 (NRC 2005), provides current estimates for excess mortality from leukemia and other cancers that are expected to result from exposure to ionizing radiation. Biological Effects of Ionizing Radiation (BEIR) VII provides estimates that are not significantly different from those in its predecessor, BEIR V, and recent United Nations Scientific Committee on the Effects of Atomic Radiation and International Commission on Radiological Protection reports. The report, however, concludes that recent data and analyses have reduced the uncertainties associated with the risk estimates. BEIR V developed models in which the excess relative risk was expressed as a function of age at exposure, time after exposure, and sex for each of several cancer categories. The models were based on the assumption that the relative risks are comparable between the atomic bomb survivors and the U.S. population. The models and risk coefficients in BEIR VII are derived through review of the most current information on the biological mechanisms of radiation tumorigenesis as well as analyses of relevant epidemiologic data that includes the Japanese atomic bomb survivors, medically exposed persons, and large-scale occupational radiation studies.*

The BEIR VII Committee concluded that the balance of evidence tends to support a simple proportionate relationship at low doses between radiation dose and risk. This conclusion essentially affirms the Linear-No-Threshold model that has long been the basis for the regulation and control of occupational and environmental radiation exposure in the United States. This SPEIS uses a linear, non-threshold relationship to assess radiation risks. A single radiation

risk estimator value (0.0006 lifetime probability of fatal cancer per person-rem) is applied to all of the calculated individual and population radiation doses regardless of how small those doses may be.

The National Council on Radiation Protection and Measurements (NCRP 1993), based on the radiation risk estimates provided in BEIR V and the International Commission on Radiological Protection (ICRP 1991), estimates the total detriment resulting from low dose¹ or low dose rate exposure to ionizing radiation to be 0.00076 per rem for the working population and 0.00083 per rem for the general population. The total detriment includes fatal and nonfatal cancers as well as severe hereditary (genetic) effects. The major contribution to the total detriment is from fatal cancer, estimated to be 0.0006 per rem for both radiation workers and the general population.

For comparison, the BEIR VII Committee's preferred estimates of lifetime attributable risk of mortality for all solid cancers and leukemia are 0.00048 for males and 0.00066 for females. The breakdowns of the risk estimator for both workers and the general population are given in EPA, in coordination with other Federal agencies involved in radiation protection, issued Federal Radiation Guidance Report No. 13, Cancer Risk Coefficients for Environmental Exposure to Radionuclides, in September 1999 (EPA 1999). This document is a compilation of risk factors for doses from external gamma radiation and internal intakes of radionuclides. Federal Radiation Guidance Report No. 13 is the basis for the radionuclide risk coefficients used in the EPA Health Effects Assessment Summary Tables (EPA 2001) and in computer dose codes. The Interagency Steering Committee on Radiation Standards (ISCORS) issued a technical report entitled, A Method for Estimating Radiation Risk from TEDE (DOE 2003a). ISCORS technical reports are guidance to Federal agencies to assist them in preparing and reporting the results of analyses and implementing radiation protection standards in a consistent and uniform manner.

Because fatal cancer is the most serious effect of environmental and occupational radiation exposures, this SPEIS presents estimates of latent cancer fatalities (LCFs) rather than cancer incidence. The numbers of LCFs can be used to compare the risks among the various alternatives. Non-fatal cancers and genetic effects, which are less probable consequences of radiation exposure, can be estimated by comparing them with the LCF estimates. The following Table has been added to Appendix C in order to assist with those non-fatal estimates.

**Table C.1.4-1—Nominal Health Risk Estimators Associated With
Exposure to 1 Rem of Ionizing Radiation**

Exposed Individual	Fatal Cancer	Non-fatal Cancer
Worker	0.0006	0.0008
Public	0.0006	0.0008

Source: DOE 2002.

- 14.K.5** Some commentors requested that the SPEIS include a human health risk assessment of proposed nuclear weapons production activities, future nuclear weapons testing, environmental clean-up of the legacy nuclear weapons complex, and the future use of nuclear weapons.

Response: *The impacts to human health from nuclear weapons production activities are presented in Chapter 5 of Volume II of the SPEIS. Because there are no plans to conduct underground nuclear weapons testing in the future, there would be no impacts from that activity. However, the NTS SWEIS (DOE 1996b) includes a discussion of the impacts of underground nuclear weapons testing, including any human health impacts. The environmental clean-up of the legacy contaminants is an on-going program conducted at the nuclear weapons sites. Chapter 4 of Volume II of the SPEIS presents the current human health impacts from such activities, as part of the existing environment for each site. The analysis of the No Action Alternative in Chapter 5 of Volume II provides the human health impacts from clean-up activities in the future. With respect to the use of nuclear weapons, this is not within the scope of the SPEIS.*

- 14.K.6** Commentors stated that DOE needs to compile and disseminate the results of epidemiological studies for the 60 years of nuclear history.

Response: *In 2005, the National Academies convened an expert committee to conduct a review of the Worker and Public Health Activities Program, which is operated by the Department of Health and Human Services (HHS) at DOE nuclear facilities under a Memorandum of Understanding (MOU) with DOE. This committee was constituted in 2005 at the request of the DOE to review the Worker and Public Health Activities Program operated by the HHS at DOE nuclear facilities from 1990 to 2004. The program responsibilities were defined in three MOUs signed by the Secretaries of HSS and DOE in 1990, 1996 and 2000. The National Institute for Occupational Safety and Health (NIOSH), which carried out a portion of this program, called it the Occupational Energy Research Program (OERP). Other HHS organizations that were involved in carrying out parts of this program during this period were the National Center for Environmental Health (NCEH) and the Agency for Toxic Substances and Disease Registry (ATSDR) (beginning with the 1996 MOU).*

Funded at approximately \$10-20 million annually for more than 20 years,

DOE's Worker and Public Health Activities Program was established to study the consequences of exposures to ionizing radiation and other hazardous materials used in DOE operations on workers and the general public in surrounding communities. Initially, the program was managed solely by DOE.

Many of the workers at approximately 20 major DOE sites have been studied epidemiologically, some of them for decades. NIOSH continues to update these studies as warranted by public health and scientific considerations. As these cohorts age, and as more powerful epidemiologic study designs become available, new studies of these workers should provide better information about health risks associated with radiation exposure.

For many of the DOE facilities, NCEH conducted dose reconstruction studies of historical exposures of the public independent of DOE. NCEH has established a scientifically sound public record of the doses received by members of the communities surrounding these facilities that is of benefit to DOE. The NCEH dose reconstruction methods that have been developed, applied, and refined in the NCEH studies have been accepted widely and are being used in epidemiological studies worldwide. NCEH has made dose reconstruction project findings available on-line via the Radiation Studies Branch web site.

The Los Alamos Historic Document Retrieval and Assessment project at Los Alamos is the sole remaining dose reconstruction activity of NCEH and the public would benefit from the information derived from this activity.

14.K.7

A commentor stated that the CMRR is being built in a defective manner and will not comply with DOE safety requirements. The commentor added that NNSA needs to install necessary seismic fasteners and ties to the CMRR.

Response: *The portion of the CMRR project that is currently under construction, the Radiological Laboratory, Utility, and Office Building (RLUOB), is being built to the highest quality assurance standards. Even though the structure is rated only as a radiological laboratory, and would not normally be constructed to the same standards as a high hazard nuclear facility, it is nevertheless, being constructed to those higher standards (10 CFR 830.120, DOE O 414.1, and NQA-1). See comment-response 14.N.7 for related discussion.*

14.K.8

One commentor stated that DOE needs to examine the source of cesium-137 found at high elevations in the Sangre de Cristo Mountains; the levels are almost at action levels.

Response: *Regional statistical reference levels (RSRL) represent a 99.9 percent upper limit only if the conditions for the sample are the same as for the data set from which the RSRL is calculated. For the Trampas Lake data, the conditions*

are unusual in two respects: the high altitude; and the shape of the terrain. These conditions contribute to high concentrations of radionuclides.

The shape of the terrain further concentrates global fallout. Rain and snow fall on the relatively impermeable slopes surrounding the lake and wash the radionuclides into the basin surrounding the lake. Trampas Lake is in a basin surrounded by relatively impermeable terrain, so the concentration is expected to be higher than on the surrounding slopes. The radionuclides in global fallout, cesium-137, strontium-90, and plutonium-239, are all expected to be elevated at Trampas Lake. In summary, the Trampas Lake data agree with expectations for global fallout at this location and should not be compared with RSRLs near LANL.

- 14.K.9** Some commentors stated that the cancer rates (melanoma, non-Hodgkins lymphoma, ovary cancer, prostate cancer, testes cancer and breast cancer) in Los Alamos are higher than the rest of the state of New Mexico.

Response: *Section 4.6.1, of Chapter 4 of the LANL SWEIS (LANL 2008) provides information on current cancer mortality and incidence rates in New Mexico and counties surrounding LANL. Table 4–26 in the LANL SWEIS shows that some cancer rates in Los Alamos vicinity are lower than the national average and some are higher, which is typical of many areas. This Section also presents information from the final LANL Public Health Assessment, issued on August 31, 2006, by the U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, which determined that, “there is no evidence of contamination from LANL that might be expected to result in ill health to the community,” and “overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities” (ATSDR 2006).*

- 14.K.10** Commentors stated that new research from Argonne National Laboratory indicates that plutonium nanoclusters can travel more readily through soil and into groundwater. The Draft SPEIS did not assess the potential for the plutonium waste from past activities, ongoing or future pit production to contaminate soil, air or groundwater from nanoclusters. The commentor concluded that the risk analysis for plutonium exposure of the public and the environment is defective and requested that the SPEIS include an analysis of the health impacts of plutonium nanoclusters.

Response: *The SPEIS uses the best available information to assess the potential environmental impacts of the alternatives. As discussed in comment-response 14.K.1, the methodologies used are consistent with generally-accepted methods, as well as the CEQ and DOE guidance related to estimating potential impacts to health. NNSA realizes that future research and discoveries could result in changes to the generally-accepted methods and guidance, but has not speculated on those changes. Due to their recent discovery, there is not enough information*

currently available related to plutonium nanoclusters to change the SPEIS analysis. Based on the best available information, NNSA believes that conservative assumptions have been made to ensure that potential radiological impacts are not underestimated.

- 14.K.11** Commentors stated that NNSA has grossly under-reported historic radiation emissions at LANL by nearly 60-fold as documented by the Centers for Disease Control and Prevention.

Response: *Chapter 4, Section 4.6.1, of the LANL SWEIS (LANL 2008) shows the radiation doses received over the past 10 years from LANL operations by the surrounding population and hypothetical MEI. The annual dose to the hypothetical MEI has consistently been smaller than the annual 10-millirem radiation dose limit established for airborne emissions by the U.S. Environmental Protection Agency. The final LANL Public Health Assessment, by the Agency for Toxic Substances and Disease Registry, reports that, “there is no evidence of contamination from LANL that might be expected to result in ill health to the community,” and that “overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities” (ATSDR 2006). NNSA is unaware of any published CDC study with findings as described by the commentor.*

- 14.K.12** Commentors stated that LANL needs to be up-to-date and in full compliance with all DOE and DNFSB safety regulations and recommendations.

Response: *The Defense Nuclear Facilities Safety Board (DNFSB) does not regulate or authorize operations but does independently oversee activities affecting nuclear safety at defense nuclear facilities. DNFSB reviews safety issues and formally reports its findings and recommendations regarding the safety of nuclear weapons complex facilities to the highest levels of NNSA. NNSA and the LANL contractor have reviewed DNFSB reports and responded with commitments to update and improve safety basis documentation.*

NNSA and its operating contractors are dedicated to safe operation of its nuclear facilities. DOE has issued regulations, standards, and guidance for nuclear operation, including requirements for performance of the safety evaluations and risk assessments that become the basis for development of facility operating parameters. Safety documentation for some LANL facilities does not meet current standards and the LANL contractor and NNSA are in the process of revising these documents to achieve compliance. Nonetheless, LANL nuclear facility operations are authorized and approved by NNSA based on its evaluation of the acceptability of existing relevant safety documentation. NNSA recently revised its oversight practices at LANL to focus more specifically on nuclear safety and security.

14.K.13 Commentors stated that the Draft SPEIS does not accurately present the reader with the immediate need to stop pit production at LANL because of the safety issues with the old CMR Facility. “Instead, the draft SPEIS describes the ongoing manufacturing at the unsafe LANL facility. In fact, the draft SPEIS does not recognize the danger an accident at the Old CMR Facility poses to worker and public safety. Given the concern of the DNFSB for the poor safety of the Old CMR Facility, and the location of the facility close to high populations of non-involved workers, the danger of the Old CMR Facility to worker and public safety from an earthquake or accident must be fully described in the revised draft SPEIS. The revised draft SPEIS must present the poor safety for continued manufacture of pits at LANL and an alternative for no pit production at LANL or anywhere else in the DOE Complex.”

Response: *NNSA completed the CMRR EIS in 2003. That EIS provides a quantitative comparison of calculated accident risks for the existing Chemistry and Metallurgy Research Building and the Chemistry and Metallurgy Research Replacement Facility (DOE 2003f). The accident risks from the existing building are significantly more than those of the planned replacement facility.*

Accident risks are a function of the source term released and the frequency of an accident, as discussed in Appendix D of the SWEIS. The Chemistry and Metallurgy Research Replacement Facility incorporates design safety features and methods such as the leak path factor and damage ratio would reduce the amount of radioactive materials that would be released to the environment in the event of an accident and thereby reduce the source term. Any specific accident source term depends only on the portion of the facility material at risk that is subject to accident conditions and existing design safety features. Therefore, a larger amount of material at risk at the Chemistry and Metallurgy Research Replacement Facility would not produce a larger source term because of mitigating safety features incorporated in the facility design.

14.K.14 The following comments were received relative to worker doses:

- The Final SPEIS “should provide an evaluation of the risks to non-involved workers that takes into account situations where such workers would be considerably closer to the accident location than 100 meters. If 100 meters is retained, a technical rationale as well as a specification of who is considered a non-involved worker should be provided.
- The dose estimates for non-involved workers in case of accidents appear far too low. The Draft SPEIS assumes that the worker will be as much as one kilometer away from the location of the fire or explosion, when there is a significant chance that, given the layout of Los Alamos facilities buildings and roads, many workers would be a lot closer.
- External doses vary approximately according to the inverse square of the distance. For instance, if non-involved workers were within 100 meters (about 110 yards) from the accident location, the estimated dose would

be roughly 100 times higher than the DOE estimate.

- The Draft SPEIS also does not provide estimates of how many involved workers-- those at the place where the accident is hypothesized to occur-- would die of cancer or direct injuries as a result of such accidents.”

Response: *For the major nuclear weapons production facilities such as a CPC, CUC, and A/D/HE Center, the analysis in the SPEIS is “programmatic.” This means that only site selection decisions would be supported by the analysis. In order to support such decisions, representative locations were assumed and assessed. Performing the analysis using representative locations is intended to provide NNSA with enough information to make site selection, while deferring a more detailed analysis to project-specific NEPA documents or SWEISs. Those documents would use site-specific design information that considers facility layouts and specific distances to other facilities. Section 5.6.3 of the LANL SWEIS (LANL 2008) analyzes worker exposures for three specific production levels for specific buildings at LANL. The location of any non-involved workers would depend upon the specific location of facilities, which is beyond the scope of this SPEIS.*

With respect to the comment that the Draft SPEIS also does not provide estimates of how many involved workers would die of cancer or direct injuries as a result of such accidents, the NNSA acknowledges that, “Workers in the facility where the accident occurs would be particularly vulnerable to the effects of the accident because of their location. However, prediction of potential health effects becomes increasingly difficult to quantify for facility workers as the distance between the accident location and the worker decreases. This is because the individual worker exposure cannot be adequately defined with respect to the presence of shielding and other protective features. The worker also may be injured or killed by physical effects of the accident.” Accident impacts to involved workers would not be a discriminator for site selection, because involved workers would not vary among site alternatives.

14.K.15

Commentors stated that the Defense Nuclear Facilities Safety Board, (an independent oversight organization within the Executive Branch charged with providing advice and recommendations to the Secretary of Energy "to ensure adequate protection of public health and safety" at DOE's defense nuclear facilities) found in report of March 18, 2005, that Sandia did not have adequate safety bases in place for managing SNM.

Response: *At no time was Sandia operating in an unsafe fashion or in a less than safe condition. NNSA and the SNL contractor reviewed the Defense Nuclear Facilities Safety Board’s reports and responded with commitments to update and improve safety basis documentation. The SNL Safety Authorization Basis Team assures the development and approval of adequate controls in support of safe operations at SNL. All SNL facility operations are based on authorization and approval by NNSA following NNSA’s evaluation of the*

acceptability of existing relevant safety documentation.

14.K.16 NOT USED

- 14.K.17** Commentor stated that DOE 5400.5 requires DOE to protect the public from radiation exposure. The SPEIS should state the collective dose equivalent within 80 km (50 miles) radius of each alternative site expressed in terms of person-rem to the maximally exposed individual, and should include comparisons to limits and derived concentration guides.

Response: *Chapter 5 of Volume II of the SPEIS provides the information requested by the commentor.*

- 14.K.18** A commentor stated that because the SPEIS specifically exempts the tritium R&D activities at LLNL from consolidation -- or from termination or reduction - the document must contain the LLNL history of releases, information about how much tritium is in the local environment, and provide an analysis of how NNSA proposes to ensure that releases do not occur in the future. In addition to airborne releases, the SPEIS should also discuss the tritium in waste at LLNL and in releases to the sewage, soil, surface and (eventually) groundwater.

Response: *Tritium releases from LLNL are discussed in Section 4.2.4.1.4 (Volume I) (air emissions) and Section 4.2.5.1.1 (water effluents). Impacts of tritium on groundwater are discussed in Section 4.2.5.2.1. A discussion has been added to Section 4.2.6.2 regarding tritium concentrations in soils. The impacts of tritium releases on human health are presented in Section 4.2.11.1.1. As shown in Section 4.2.11.1.1, doses from LLNL operations are well below regulatory limits. More details regarding tritium releases at LLNL are presented in the LLNL ASERs and the LLNL SWEIS (DOE 2005a).*

- 14.K.19** One commentor stated that DOE used an outdated version of CAP-88, an atmospheric transport model designed by the Environmental Protection Agency (“EPA”), to estimate dose and risk from radionuclide air emissions as part of Clean Air Act compliance. The Draft SPEIS references that calculations performed for the analysis used EPA’s 1992 version of the CAP-88-PC model (Revision 1.0.). The commentor also stated that it does not appear that any additional consideration was given in the Draft SPEIS to modeling additional exposure pathways utilized by Santa Clara Pueblo or to the assessment of cumulative health effects, and environmental justice impacts.

Response: *According to EPA, users “may use any of the three versions of CAP-88 for enforcement purposes. To allow for updates and refinement of the software, Subpart H of 40 CFR Part 61 does not specify any version. However, because Version 3 incorporates the latest science and is more versatile than the older versions, it is recommended. Please note that, as with most models, version*

3 has been modified to eliminate errors discovered by the user community. This process is expected to continue.” For more information, please see: <http://www.epa.gov/radiation/assessment/CAP88/index.html>. In the Final SPEIS, NNSA has revised the dose calculations using the CAP-88 Version 3 software. As shown in Chapter 5, all doses from normal operations are expected to remain below regulatory standards. With respect to additional consideration given to modeling additional exposure pathways utilized by the Santa Clara Pueblo, please see comment-response 14.J.1.

- 14.K.20** Commentors stated that “DOE disregarded past cumulative impacts and focused on additive effects of each single chemical or radiological agent or stressor, rather than addressing the combined impact of multiple stressors and the potential for interaction amongst different stressors. It appears that DOE simply assumes past impacts are part of the natural background now and did not account for natural background radiation levels when assessing cumulative environmental impacts in the Draft SPEIS.”

Response: *Chapter 5 of Volume II of the SPEIS presents the impacts of the alternatives on human health for all potentially affected sites. The analysis includes a comparison of the impacts of the alternatives against natural background radiation (see, for example, Table 5.1.11-2). As seen in that Table, doses from the alternatives will be a very small fraction of the natural background radiation. Chapter 6 of Volume II of the SPEIS includes a discussion of the cumulative impacts of the alternatives in conjunction with other reasonably foreseeable projects.*

- 14.K.21** A commentor stated that past atomic weapons production has had a negative effect on human health in the Central Savannah River Area, and that congenital malformations are the number one cause of infant mortality in Aiken County.

Response: *The commentor's observation that “past atomic weapons production has had a negative effect on human health in the Central Savannah River Area” is not supported by available epidemiological data. In a joint study (Cancer Incidence Report 1991-1995) the Medical University of South Carolina and Emory University found that the overall rates of cancer in a 22-county area surrounding the Savannah River Site (SRS) are similar to or lower than rates reported in the National Cancer Institute’s Surveillance, Epidemiology and End Results Program, and for metropolitan Atlanta, Kentucky, and Louisiana. Although some cancers did occur at elevated rates (i.e., cervical cancer in black females and esophageal cancer in black males), there was no indication that the increased incidence was related to SRS operations (MUSC and Emory University 1999). In addition, the SRS Dose Reconstruction Project (CDC 2006) a study by the Centers for Disease Control and Prevention which examined radiological releases from SRS over a 39-year period (1954 through 1992), created representative exposure scenarios based on the SRS release data. The*

studies authors concluded that calculated doses and risks to the hypothetical receptors summed over the 39-year period studied appear to be small. The largest point estimate dose was 0.94 rem for the Outdoor Family Child born in 1955; the corresponding risk of cancer incidence is 0.10 percent and the corresponding risk of cancer fatality is 0.024 percent. By way of comparison, the annual average radiation exposure for a member of the U.S. population is about 360 mrem, mainly from naturally occurring sources of radiation and medical sources (e.g., x rays). An annual background dose of 360 mrem over a period of 39 years would produce a dose of 14 rem... Although estimated doses (and the risks of cancer incidence) could be higher or lower when uncertainties in variables were considered, these differences are not sufficient to change this conclusion.

With respect to the comment regarding congenital malformations being the number one cause of infant mortality in Aiken County, it should be noted that birth defects are now the leading cause of infant mortality in the United States. Congenital malformations can occur for many reasons, including inherited (genetic) conditions, toxic exposure of the fetus (e.g., to alcohol or drugs), birth injury, lack of or insufficient prenatal care, or other reasons. Congenital malformations are present in one of every three babies that die in the United States (www.medterms.com). A review of South Carolina Department of Health and Environmental Control data on infant mortality rates in Aiken County finds that in 2005, the death rate attributable to congenital malformations was second to “disorders related to short gestation and low birth weight” (4 vs. 5, respectively). Over the period 2001 – 2005, the frequency of infant death attributable to both of these mortality variables was equal (21 each). There are no epidemiological data that support the inference that there is a causal relationship between infant death rates in Aiken County and SRS-related activities. For more information on potential health impacts associated with radiation exposure, see comment-response 14.K.4.

14.K.22

A commentor noted that “during the cold war era, it was common that fallout from atomic testing rained down upon the Western Shoshone peoples and non-indigenous people alike causing cancers and other health problems associated with atomic testing.

Response: *During the period from July, 1945 to November, 1962, the United States conducted atmospheric (open air) testing of nuclear weapons at the NTS and elsewhere. Following the signing of the Nuclear Test Ban Treaty in August 1963, all U.S. nuclear tests were conducted underground until September 1992 when the United States conducted its last test. During the period of atmospheric testing, radioactive fallout from the detonations occurred in downwind areas. Some members of the Western Shoshone may have been exposed to that fallout. On October 5, 1990, the Congress passed the Radiation Exposure Compensation Act ("RECA" or "the Act"), 42 U.S.C. § 2210 note, providing for compassionate payments to individuals who contracted certain cancers and other serious*

diseases as a result of their exposure to radiation released during above-ground nuclear weapons tests or as a result of their exposure to radiation during employment in underground uranium mines. More information on RECA may be found in comment-response 6.C.5.

14.L TRANSPORTATION

A commentor expressed concern about transportation. A commentor expressed concern and is opposed to the use of local roads in the vicinity of LANL for the transportation of nuclear materials. Another commentor stated that the selection of Pantex would also avoid significant transportation costs and risks.

Response: *The potential transportation impacts associated with Complex Transformation for the area around LANL are addressed in Section 5.1.13 and radiological transportation impacts are addressed in Section 5.10 of this SPEIS. NNSA notes the opposition to the use of local roads in the vicinity of LANL.*

14.L.1 One commentor stated: The Draft SPEIS “fails to contain an adequate route-specific analysis for each proposed plutonium center and consolidated SNM location that would allow risks and impacts to be compared among alternatives. Such analyses can be done without compromising the security aspects of the actual shipments, when and if they occur. Because truck transport is the only available option to a NTS facility, shipments of SNM would impact the heavily populated and congested Las Vegas Valley. The impacts of such shipments are not addressed” in the Draft SPEIS.

Response: *The level of analysis used in the Complex Transformation SPEIS is considered appropriate for a programmatic document. Section 5.10 of the SPEIS is a Complex-wide assessment of impacts that may be expected from transportation of nuclear materials and radiological wastes. Section 5.10 of the SPEIS includes a detailed discussion of potential impacts from transportation activities.*

The NTS SWEIS (DOE 1996b) included a Transportation Study (Volume 1, Appendix I) that assessed the potential impacts to human health and safety of shipping nuclear weapons and related materials to the NTS. The parameters used in this study included shipments of nuclear test devices, high explosives, and pits from Pantex, LANL, and LLNL. The number of shipments assessed over a 10-year period for the Expanded Use Alternative included 140 shipments of nuclear test devices, 1,587 shipments of nuclear explosives, and 366 shipments of pits. The transportation risks were calculated as follows: Incident-free radiological LCFs: 2.1×10^{-3} ; Incident-free non-radiological deaths: 4.0×10^{-3} ; Traffic fatalities 10.6×10^{-2} ; Accident-initiated radiological LCFs: 1×10^{-6} ; and Maximum exposed individual LCFs: 3.3×10^{-6} . Transportation impacts resulting from implementation of Complex Transformation alternatives are addressed generally for the NTS in Section 5.3.13.

- 14.L.2** Commentors stated concerns about the ability of Santa Clara Pueblo members to be able to cross the road from their homes to their government buildings. “At peak commuter hours, it is already extremely difficult to exit the Pueblo village onto State Road 30 or to make a left turn from that road into the Pueblo. Moreover, any increase in traffic due to more LANL commuters would cumulatively exacerbate pollution problems.”

Response: *Only two major roads, NM 502 and NM 4, access Los Alamos County. Traffic volume on these two segments of highway is primarily associated with LANL activities. Most commuter traffic originates from Los Alamos County or east of the county in the Rio Grande Valley or Santa Fe as a result of the large number of LANL employees that live in these areas. The concern regarding traffic near the Santa Clara pueblo is valid; however, as the majority of the traffic does not interfere with this region, decisions made regarding which alternative is chosen will have little to no impact on the traffic near the Santa Clara Pueblo.*

14.M WASTE MANAGEMENT

Comments were received on the subject of waste management in the complex both under no action and for all of the action alternatives. Some of the comments related to specific sites and some related to larger complex-wide waste management issues. Site specific comments included:

- Concern about the storage/management of TRU and low level radioactive wastes from the Preferred Alternative in LANL Area G which is proposed to be closed in 2015.
- Concern about the contamination at Rocky Flats and Los Alamos.
- The significant amounts of nuclear waste currently in storage (approximately 35 million gallons of high level nuclear waste in underground tanks) that has been in the same condition for the past 20 years without any change.

General waste management comments included:

- Concern about issues with waste storage and management in the Complex.
- National security relies on waste management of nuclear material.
- Support for an alternative that would provide adequate waste remediation.
- Concern about the amount of nuclear waste that GNEP and Complex Transformation will create.
- With regard to the management, storage, and disposal of plutonium pits by the U.S. and Russian governments, stated that the NNSA should consider shipping Russian plutonium to France for use in their reactors.
- Nuclear waste is dangerous.

- Complex Transformation would improve waste management practices of radioactive material.

Response: *The SPEIS addresses these issues. Please see the Waste Management Sections of this SPEIS (Sections 4.1.13, 4.2.13, 4.3.13, 4.4.13, 4.5.13, 4.6.13, 4.7.13, 4.8.13, 4.9.13 (Volume I), and 5.1.14, 5.3.14, 5.5.14, 5.8.14, 5.9.14, 5.10.5, 6.3.1.1, 6.3.4.7, 6.3.5.1, and 6.4.2.5 of Volume II). The health effects from management of radioactive waste are included in the health and safety Sections of the SPEIS (Sections 5.1.11, 5.3.11, 5.5.11, 5.8.11, 5.9.11, 5.10, 6.3.1.1, 6.3.2.2, 6.3.4.6, 6.3.5.1, and 6.4.2.3 of Volume II). Additional information regarding LANL Area G is in comment-responses 14.M.2 and 14.M.7. See also the LANL SWEIS (LANL 2008) for more information on Area G.*

Information regarding the cumulative impacts of Complex Transformation and Global Nuclear Energy Partnership are addressed in Sections 6.2.1 and 6.3.2.3 of Volume II of this SPEIS.

The disposition of Russian plutonium is not within the scope of Complex Transformation.

Radioactive materials and wastes, if not handled correctly, are hazardous. For this reason, DOE has developed extensive and strictly enforced processes for dealing with radioactive materials and wastes. The most effective means to avoid harm from these materials and wastes is to avoid contact. All DOE radiological and waste management facilities are located in areas that with controlled access and operated in strict compliance with all applicable laws, regulations, and orders.

14.M.1

Some commentors stated that the Rocky Flats Plant had not been cleaned up as is claimed by DOE and asserted that the Rocky Flats Plant site was still contaminated. One commentor was concerned about environmental degradation resulting from nuclear waste storage at current NNSA sites similar to what exists at Rocky Flats. Another commentor stated that the NNSA should spend more energy investigating what went wrong at Rocky Flats than trying to resurrect a new Rocky Flats. A commentor stated that LANL isn't any different from Rocky Flats; therefore, if Rocky Flats was closed, why hasn't LANL been closed.

Response: *In 2005, DOE certified the environmental cleanup work at the former Rocky Flats site complete. The Rocky Flats site encompasses approximately 6,200 acres of high prairie that has been closed to the public for more than 50 years. During production and cleanup, a 5,800-acre buffer zone surrounded the 400-acre industrial area where the trigger mechanisms for nearly every nuclear weapon in the nation's arsenal were manufactured.*

"With the transfer of nearly 4,000 acres from the Department of Energy, the

U.S. Fish and Wildlife Service (FWS) will establish the Rocky Flats National Wildlife Refuge in order to conserve the rare and unique tallgrass prairie found along Colorado's Front Range, U.S. Department of Interior's Director of the Fish and Wildlife Service H. Dale Hall said in May of 2007. "As intended by Congress, the refuge will preserve a lasting wildlife and habitat legacy for future generations."

Since 2005, DOE has worked to complete regulatory requirements and prepare to transfer the site to FWS. In May 2007, the U.S. Environmental Protection Agency completed regulatory certification and released the lands for unrestricted use as a National Wildlife Refuge. DOE will retain approximately 1,300 acres in the center of the site for long-term surveillance and maintenance. This area is protected by physical and institutional controls and contains surface and groundwater monitoring equipment, four groundwater treatment systems, and two closed landfills.

While not complete at any currently used NNSA site, environmental remediation efforts are underway in compliance with all applicable federal, state and local laws.

14.M.2

The following comments were received regarding LANL waste management issues:

- DOE and LANL have missed several important deadlines and milestones and failed to comply with technical requirements in the 2005 fence-to-fence cleanup order, and that 60 years of legacy contamination remains unaddressed.
- The LANL budget continues to increase but the cleanup budget continues to fall further behind.
- The environmental impacts of past radioactive waste dumping at Area G are unknown because of problems with LANL's monitoring well system due to the use of drilling muds and additives that are known to mask contaminants.
- No additional LLW waste should be added to Area G until the legacy waste impacts are known and mitigated.
- Concern about contamination of the Rio Grande from wastes at LANL.

Response: *As stated in the LANL SWEIS, NNSA intends to implement actions necessary to comply with the Consent Order regardless of decisions made on other activities. Refer to Section 2.9, Compliance Order on Consent (Consent Order) and Environmental Restoration Activities, of the LANL SWEIS Comment Response Document for more information (LANL 2008).*

On May 2, 2002, the New Mexico Environmental Improvement Division (now New Mexico Environment Department (NMED)) issued a Determination of

Imminent and Substantial Endangerment to Health and the Environment and a draft order compelling investigation and cleanup of environmental contamination at LANL. After receiving public comments, NMED revised its Determination and issued a final Compliance Order on November 26, 2002. After negotiations among the University of California, DOE and NMED a Consent Order was reached. On September 1, 2004 NMED issued a revised Consent Order and on March 1, 2005 the final Consent Order was entered into by NMED, the State of New Mexico Attorney General, DOE, and the University of California (NMED 2005).

Section 2.2.6 of Chapter 2 of the LANL SWEIS describes the progress that NNSA has made in conducting its environmental restoration program at LANL. Appendix I of the LANL SWEIS (LANL 2008) presents options and environmental analyses for the conduct of future remediation activities at LANL, primarily related to the Consent Order that was entered into in March 2005.

The LANL Area G issue was addressed in the final LANL SWEIS (LANL 2008). In that document, 11 different data sets for groundwater were presented and only one of those data sets comes from wells that are subject to the analysis of drilling fluids. Further, some of the groundwater data at LANL are being reassessed due to potential residual drilling fluid effects. Drilling fluid effects are quantitatively assessed in the Well-Screen Analysis Report (LANL 2005c). Fifty-two percent of the well screens evaluated in that report produce water quality samples that are not significantly impacted by drilling fluids. LANL has initiated a program to better evaluate the wells and to rehabilitate wells that may be producing suspect groundwater monitoring results (LANL 2006e). LANL is using the results of a pilot study to develop a proposed course of action for approval by the New Mexico Environment Department (LANL 2008).

14.M.3

The following comments were received regarding waste management:

- All true alternatives for safe storage of waste must be identified and analyzed. Concern about the storage of nuclear waste and potential health effects.
- Concern about the reason why LANL continues to bury waste in unlined pits, trenches, and shafts in the volcanic tuff while municipalities have been required for years to build landfills with double liners and leachate collection systems.

Response: *All waste storage and disposal facilities required for the various alternatives evaluated in the SPEIS would be designed and operated in compliance with applicable Federal, state and DOE requirements concerning the storage of wastes. As indicated in Sections 5.1.14, 5.3.14, 5.5.14, 5.8.14, and 5.9.14 (Volume II), NNSA analyzed the waste categories and volumes that could be generated by the various programmatic alternatives. These sections provide information on how these wastes would be managed. Other Sections,*

such as Sections 5.12.3.4, 5.15.4.3, and 5.16.2.1-5.16.2.5 (Volume II), describe the volumes, waste categories and management paths for wastes resulting from the D&D of structures that would result from the consolidation alternatives associated with the project specific alternatives, such as SNM Consolidation, Tritium R&D, Flight Test Operations, Hydrodynamic Testing, and Environmental Testing.

14.M.4 The following comments related to transuranic (TRU) waste were received:

- There would be no place to dispose of TRU waste from the nuclear weapons complex in the near future.
- NNSA should not produce waste that does not have a clear path to disposal.
- The SPEIS must analyze where all radioactive and hazardous wastes from continuing weapons R&D and production will be permanently disposed.
- The WIPP disposal capacity is already spoken for by clean-up activities for existing waste and that the SPEIS must analyze the impacts of storing TRU waste at the generator sites until they can be shipped to WIPP or a "WIPP-like" facility after WIPP closes.
- NNSA should define "WIPP-like facility, a term that was used in the Draft SPEIS.
- If future Complex Transformation TRU wastes are generated in time to be disposed at WIPP, potential existing TRU wastes at other sites, including environmental restoration wastes, could get bumped out of WIPP and the SPEIS must analyze the impacts of a possible TRU waste "shell game" that continues indefinitely on into the future.
- NNSA should include in the SPEIS reference documents, "ANNUAL TRANSURANIC WASTE INVENTORY REPORT - 2007, DOE/TRU-2008-3379."
- Previously touted "Quick-to-WIPP" initiatives at LANL were anything but quick, and that above-ground storage of TRU wastes at LANL remains a serious environmental, public safety, and Intentional Destructive Acts threat.
- If storage of future Complex Transformation TRU wastes is required "hardened on-site storage" (HOSS) facilities must be used.

Response: *Waste management, including the management of TRU wastes, is discussed in Chapter 5 of Volume II for each site. Most TRU wastes will be produced at the Pit manufacturing facility and (in much smaller quantities) at plutonium research and development facilities. The quantities of TRU waste that would be generated in each facility are an extremely small percentage of the total amount of TRU wastes that NNSA must safely dispose of. The text in Chapter 5 has been revised to include a reference to "ANNUAL TRANSURANIC WASTE INVENTORY REPORT" "2007, DOE/TRU-2008-3379" to support the*

statements concerning the quantities of TRU that could be produced for each alternative and how those quantities relate to the total TRU waste inventories requiring safe disposition.

Alternatives analyzed in this Complex Transformation SPEIS could generate TRU waste after WIPP's scheduled closure date of 2035. At this time, DOE is not proposing to seek any legislative change to extend WIPP's operation or to develop a second repository for TRU waste. Any TRU waste that is generated without a disposal pathway would be safely stored until disposal capacity becomes available.

WIPP has sufficient capacity available to meet the TRU waste disposal requirements of NNSA's Stockpile Stewardship Program for several years into the future. This SPEIS assumed WIPP as the disposal location for TRU waste generated under each alternative. (Waste disposal is addressed in the SPEIS for the purposes of performing transportation analysis only.) The term "WIPP-like" was used in the Draft SPEIS to define a future facility that would be authorized to dispose of defense transuranic waste. Such a facility would be comparable to the Waste Isolation Pilot Plant. In the final SPEIS, NNSA has eliminated the use of this term.

DOE's 1997 WIPP Supplemental EIS II (WIPP SEIS II) acknowledged, and DOE recognizes that the amount of TRU waste generated during the lifetimes of the programs served by WIPP could eventually exceed the total disposal capacity limit set for the repository under the WIPP Land Withdrawal Act. DOE also acknowledges that several of NNSA's sites and their facilities may operate beyond WIPP's currently planned operating period.

The scope and data analysis available within the current SPEIS should not be interpreted as providing firm evidence of an impending need for expanding the Department's TRU waste disposal capacity. The programmatic alternatives analyzed in this SPEIS examine a broad range of potential production capacities for current and proposed SNM facilities in order to ensure that NNSA maintains its capability to meet its national security obligations by planning for and providing a complex that is able to produce what is likely to be required. A precise prediction of the future production capacity needed to work on or replace aging weapons cannot be made. Further, a capacity to produce components does not mean that those quantities of components would actually be produced (see Chapter 2 of this SPEIS). National security requirements would determine actual production levels and the associated amounts of waste generated.

DOE has made no plans to date regarding the location or design of a waste disposal facility for TRU waste after WIPP's closure. In the future, if inventory projections show a need for additional disposal capacity for TRU waste, DOE will develop strategies for expanding the Department's capacity. This would be

subject to NEPA analyses.

If, in the future, additional disposal capacity were found to be needed but not readily available storage of waste would be needed until that additional capacity became available. The WIPP SEIS II examined the impacts of storage and disposal of 11,018,000 ft³ of TRU waste under its Action Alternative 1. This alternative included lag storage for a period of up to 160 years at all of the sites evaluated in the SPEIS. The WIPP SEIS II analyses indicated that potential impacts to the public, involved workers, and non-involved workers from lag storage would be small. The LCFs would be one or less than one for radiation exposures and no cancers from potential exposure to hazardous chemical would be expected. HOSS facilities are addressed in comment-response 14.M.5.

14.M.5

The following specific comments related to hardened on-site storage (HOSS) were received:

- HOSS must be considered as an alternative and that radioactive wastes should be safely stored as close to the site of generation as possible and be safeguarded in HOSS facilities.
- HOSS facilities should be considered and analyzed from the perspective that these wastes must be zealously protected from risks posed by wildfire or other natural or man-made disasters. HOSS facilities must not be designed as permanent waste disposal solutions, and therefore should not be constructed deep underground. The wastes must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases. The overall objective of HOSS should be such that the amount of release projected in even serious terrorist attacks should be low enough that the storage system would be unattractive as a target to begin with. Design criteria must include resistance to severe attacks, such as a direct hit by high explosive or an aircraft loaded with fuel and/or explosives.
- Explain why HOSS was not posed as an alternative in this SPEIS.
- If HOSS is not analyzed in the SPEIS, please provide detailed reasons for its rejection.”

Response: *WIPP has sufficient capacity available to meet the TRU waste disposal requirements of NNSA’s Stockpile Stewardship Program for several years into the future. This SPEIS assumed WIPP as the disposal location for TRU waste generated under each alternative. (Waste disposal is addressed in the SPEIS for the purposes of performing transportation analysis only.) NNSA agrees, however, that Hardened On-Site Storage facilities may present an attractive alternative for temporary storage of radioactive wastes should the need for onsite storage become apparent in the future. At this time, since the need for on-site storage is not known, it would be premature to proceed with environmental impact analyses in this area for the current SPEIS. Further, the specific details of facility and site operations required for an appropriate*

analysis of this subject exceed the scope of the current SPEIS and are not currently available. In the future, if inventory projections show a need for additional disposal capacity for TRU waste, DOE will develop strategies for expanding the Department's capacity. This potential future action would be subject to its own NEPA analyses.

14.M.6 A commentor stated that TA-14 is not RCRA permitted.

Response: *The open burn cage at TA-14, Q Area, has interim status. Because it was in existence at the time of the enactment of RCRA, it is 'grandfathered in' and open burning can take place there under the provisions of RCRA. As such, the SPEIS statement that this site is permitted to treat waste under RCRA is correct.*

14.M.7 A commentor stated there are many problems at TA-54 that must be addressed. “For example, the latest version of the Performance Assessment/Composite Analysis (PA/CA) for TA-54 available to the public is dated 1997. It has been over a decade since this document has been updated and made available to the public. Before a revised Draft SPEIS is made available for public review and comments, the PA/CA must be released as well for public review and comment. As for low level waste, the Draft SPEIS states that such low level waste would be disposed of onsite at LANL at TA-54, Area G. Yet, as the DOE Inspector General's audit recognizes, DOE has not met Consent Order milestones set for clean-up of past waste dumped at Area G. It is irresponsible to even contemplate adding low level waste to Area G until legacy waste impacts there are actually mitigated.”

Response: *An updated performance assessment for Area G is in preparation. Until this document is finalized and approved, the current performance assessment and composite analysis for waste disposal remains valid. To the extent possible, the most recent technical documents have been considered in the final SPEIS analysis. Information currently under development that is not available for use in the final SPEIS will be considered as it becomes available and, in accordance with the NEPA compliance process, the SPEIS impact analyses would be reviewed and supplemented as necessary based on the newly available information. See comment-response 14.M.2 for more information on Area G.*

14.M.8 Comments were received that the Draft SPEIS did not adequately analyze the environmental impacts of wastes for the alternatives discussed. Specific comments regarding wastes from RRW were as follows:

- The assertions in the Draft SPEIS that the RRW program would create less environmental impacts are not proven.
- Any nuclear weapons complex, with or without RRW, would create

radioactive and hazardous waste.

- The Draft SPEIS does not adequately analyze the environmental impacts of those wastes for the alternatives discussed.

Response: *The Reliable Replacement Warhead (RRW) is not a part of any of the Complex Transformation SPEIS alternatives. The RRW discussion, which may be found in Section 2.5 of Volume I of the SPEIS, is included due to high levels of Congressional and public interest as to what influence (if any) RRW would have on the proposals, should it be pursued at a later date. NNSA agrees that the RRW is still in the design stage and that it cannot delineate precise estimates of waste products that would be generated by the manufacture of such warheads. As discussed in Chapter 2, Volume I, it is clear, however, that less machining and therefore less waste would be generated. As evidenced in Sections 5.1.14, 5.2.14, 5.3.14, 5.4.14, 5.5.14, 5.8.14, and 5.9.14 (Volume II), NNSA considered the waste categories and volumes that would be generated by the various programmatic alternatives and indicates how these wastes would be managed. Other Sections such as 5.13.3.4, 5.15.4.3, 5.16.3.1, 5.16.3.5, and 5.17.3 (Volume II) describe the management of D&D waste resulting from the consolidation associated with the project specific alternatives, such as SNM Consolidation, Tritium R&D, Flight Test Operations, Hydrodynamic Testing, and Environmental Testing.*

14.M.9 One commentor stated that TRU waste generation amounts in the Draft SPEIS do not make sense and are not credible.

Response: *Due to the waste management procedures required by NNSA for the management of TRU waste, NNSA keeps very good records to allow for the accountability of TRU waste. Projections of TRU waste generation rates for proposed actions were based on these actual generation rates and were developed by NNSA waste experts knowledgeable of existing practices and NNSA proposed actions. Without more specific detail as to which specific TRU waste numbers the commentor believes do not make sense, it is not possible to address this concern in more detail...*

14.M.10 A commentor stated: “Overall, the SPEIS fails to address the enormous radioactive and hazardous waste environmental cleanup issues that resulted from the last five decades of nuclear weapons manufacturing. NNSA proposes to proceed with additional pit production and weapons production but is not addressing or providing adequate funding for cleanup of the horrific existing contamination confronting communities at all existing DOE sites.”

Response: *The Complex Transformation SPEIS analyzes the potential environmental impacts of reasonable alternatives to continue transformation of the nuclear weapons complex to be smaller, and more responsive, efficient, and secure, in order to meet national security requirements. Other actions, such as*

the remediation of NNSA sites are the programmatic concerns of other DOE programs and are not within the scope of this document.

DOE has a large remediation program and is addressing past contamination issues with aggressive programs at each of its facilities. These programs are being conducted in accordance with Federal and state regulatory requirements and include implementation of administrative and engineered controls to minimize additional releases as well as surveillance monitoring of the environment and reporting of exposure assessments.

- 14.M.11** A commentor stated that the SPEIS is silent on waste generation, treatment, and disposition and that NNSA should address plans for management of wastes for each alternative in the SPEIS.

Response: *As evidenced in Sections 5.1.14, 5.2.14, 5.3.14, 5.4.14, 5.5.14, 5.8.14, and 5.9.14, of Volume II of the SPEIS NNSA considered the waste categories and volumes that would be generated by the various programmatic alternatives and indicates how these wastes would be managed. Other Sections such as 5.13.3.4, 5.15.4.3, 5.16.3.1, 5.16.3.5, and 5.17.3 of Volume II of the SPEIS describe the management of D&D waste resulting from the consolidation associated with the project specific alternatives, such as SNM Consolidation,*

Tritium R&D, Flight Test Operations, Hydrodynamic Testing, and Environmental Testing.

Each of these Sections estimates the amount of waste which would be generated for each alternative at each candidate site, by waste category, and then compares these volumes to the existing waste management infrastructure and assesses the ability to manage these volumes.

- 14.M.12** A commentor stated: “The draft SPEIS continues to ignore the fact that serious violations of environmental, health, and safety regulations and laws were still occurring at Rocky Flats as recently as the late 1980s, despite the fact that numerous technology upgrades were made to the Rocky Flats facility over the years. Unless management deficiencies are addressed and corrected, there is no reason to expect a plutonium processing facility elsewhere will have a better environmental and safety track record, regardless of the technology employed. The draft SPEIS should have comprehensively and objectively addressed the pervasive management and oversight deficiencies at Rocky Flats and their contributions to the environmental contamination and safety violations that occurred at that facility.

Response: *A CPC would be designed and operated to minimize risk to both workers and the general public during normal operations and in the event of an accident. Benefiting from decades of experience, a CPC would employ modern*

processes and manufacturing technologies and would utilize an oversight structure for safety, environmental protection, and management oversight that has been established by DOE since Rocky Flats ceased operations.

Modern safety and security design standards require substantially different structures than the earlier pit manufacturing facilities at the Rocky Flats Plant, near Golden, Colorado. The buildings at the Rocky Flats Plant were constructed in the 1950s with metal roof sheeting covered by a built-up weather seal. In contrast, the exterior walls and roof of PF-4 (the current interim production plutonium machining facility at LANL) are constructed of reinforced concrete more than a foot thick. Internal walls at PF-4 are designed to provide multiple-hour fire barriers between wings. A CPC would be designed with similar improvements over practices at Rocky Flats.

- 14.M.13** Commentors questioned whether the interaction between LANL cleanup activities outlined in the Compliance Order on consent and the activities proposed for Complex Transformation have been evaluated? Another commentor stated that Los Alamos County strongly supports the schedule of the Compliance Order being maintained or improved.

Response: *On May 2, 2002, the New Mexico Environmental Improvement Division (now NMED) issued a Determination of Imminent and Substantial Endangerment to Health and the Environment and a draft order compelling investigation and cleanup of environmental contamination at LANL. After receiving public comments, NMED revised its Determination and issued a final Compliance Order on November 26, 2002. After negotiations among the University of California, DOE and NMED a Consent Order was reached. On September 1, 2004 NMED issued a revised Consent Order and on March 1, 2005 the final Consent Order was entered into by NMED, the State of New Mexico Attorney General, DOE, and the University of California (NMED 2005).*

The Consent Order requires LANL investigation and cleanup pursuant to stipulated procedures and schedules (NMED 2004). Schedules in the Consent Order may be adjusted to account for delays in NMED approvals; or to accommodate requests from DOE or its contractor. Additional details of this Consent Order may be found in Appendix I of the Final LANL SWEIS (LANL 2008). See also comment-responses 14.M.2 and 14.E.3 for further discussion of the Consent Order.

- 14.M.14** The following comments regarding waste management at LLNL were received:

- Plutonium has been removed from soils at the Livermore Lab main site as part of the ongoing Superfund cleanup there. Plutonium has also been found at elevated levels in an off-site air monitor to the east of LLNL and in the top 2 inches of dirt in a City park to the west of LLNL.

- The impacts of continuing operations, including those that are part of the ‘preferred alternative’ of the SPEIS at Livermore Lab includes risks that were not studied in the SPEIS and must be.
- In addition to failing to consider the environmental and health risks of keeping this material at LLNL and the security risks, the SPEIS also fails to consider that its decision to name LLNL as a nuclear weapons design center of excellence for the future may involve LLNL operating a new plutonium foundry (currently under construction at LLNL). The new foundry, called L-cast, which is being built in the Livermore Lab plutonium facility (Building 332), is inextricably connected to the Complex Transformation plan, yet it is strangely absent from the Draft SPEIS. It must be analyzed, including:
 - potential health and environmental impacts,
 - potential security impacts and vulnerabilities,
 - potential to affect or defer the SPEIS "Preferred Alternative" to remove plutonium from LLNL by 2012 as well as its impact on any plans to accelerate the removal date, and,
 - constraining impact (along with the RRW program of which it a part) on the development of a consolidation alternative that would result in changing Livermore Lab's mission.

Response: *Continued operations with plutonium at LLNL are considered in detail in the LLNL SWEIS (DOE 2005a). These continued operations produce the impacts on the affected environment presented in Section 4.2, of Volume II, of the SPEIS. In this SPEIS, the analysis focuses on the changes that could result if Category I/II SNM operations are phased out of LLNL (Section 5.12.2, Volume II). In this manner, the SPEIS provides NNSA with the relevant environmental information that it needs in order to make decisions with respect to future plutonium operations at LLNL.*

L-cast is a development and demonstration foundry that incorporates advanced casting technology (die-casting) and automation to enable technology transformation in pit manufacturing. In the LLNL SWEIS (DOE 2005a), the L-cast was included in the Expanded Operations Alternative, and NNSA assessed the increased material amounts for two rooms in Superblock (Building 332) that were needed to support the L-cast. However, in August 2007, NNSA decided not to install the L-cast at LLNL.

14.M.15

A commentor stated: “This [waste management] is not an idle concern to Santa Clara Pueblo. All waste remediation issues affect us, be they "cap and cover" methods that have already resulted in LANL contaminants found in surface water and groundwater nearby, or removal methods, where transport off the hill raises its own safety concerns as waste is transported near or through our lands. It is important to remember this area is part of our aboriginal homeland. The

lands need to be restored to the same condition they were in before the Manhattan Project. To do anything less is disrespectful of the earth.”

Response: *Some contamination of ground and surface waters has occurred due to past LANL operations. As discussed in Chapter 2 of Volume I of the SPEIS, (Section 2.2.6), NNSA is conducting an environmental restoration program to address the remaining potential release sites at LANL including material disposal areas, firing sites, outfalls, and others. With respect to material disposal areas, the LANL SWEIS (LANL 2008) addresses two broad options for remediation: capping in place and removal. Capping would enhance the current configuration of the material disposal areas, providing greater environmental protection over the long term. Removal would completely remove the waste. As suggested by the commentor, each option would have environmental impacts as well as benefits. For example, Section I.5.10 of Appendix I of the SWEIS, addresses possible impacts from transporting wastes from environmental restoration to offsite treatment and disposal facilities. Transuranic waste would not be transported through the Santa Clara Pueblo, and low-level radioactive waste would be transported through the Santa Clara Pueblo only if a decision is made to dispose of the waste in a commercial facility. NMED will decide how this area is remediated. Mitigation measures for impacts identified in the LANL SWEIS are addressed in Chapter 5, Section 5.14, of that SWEIS.*

14.M.16 One commentor stated that there was a failure to identify hazardous waste and toxic contamination or appropriate remediation approaches at NTS acceptable to the Western Shoshone.

Response: *Areas that were contaminated by past activities have been identified and are being remediated in accordance with the Federal Facility Agreement and Consent Order with the State of Nevada and all applicable laws, regulations, and orders. The goal of the Environmental Restoration Program at the NTS is to ensure that risks to the environment and to human health and safety, as posed by inactive and surplus facilities and sites, are either eliminated or reduced to protective levels. Protective levels are determined through site conditions, risk assessments, and consultation with federal and state regulatory authorities.*

14.M.17 A commentor stated that DOE is already way behind mandated environmental clean-up requirements and that Complex Transformation will make the situation worse to the point of threatening our environment.

Response: *DOE is committed to remediation of past contamination issues at its facilities and has a very aggressive remediation program. This program is conducted on a site-by-site basis, in conjunction with Federal and state regulators. This program is funded separately from the NNSA activities, based on the authorization and funding decisions made by the Congress. Complex*

transformation will not make legacy contamination worse or more difficult to remediate.

- 14.M.18** Commentors stated that the SPEIS provides insufficient specific discussion of the environmental benefits that would result from selection of the Preferred Alternative compared with the No Action Alternative. Additional areas would be available for clean-up.

Response: *NNSA has added Section 5.20 to Volume II of the SPEIS to discuss the impacts of the Preferred Alternative specifically, and has made changes to the summary Tables (Table 3.16-1 in Chapter 3, Volume I, and Table S.3.16-1 in the Summary) to better compare the Preferred Alternative to other alternatives.*

- 14.M.19** A commentor stated that the mixed waste landfill at SNL/NM is in violation of federal law because it does not have monitoring wells and does not have the required permits for operations.

Response: *The mixed waste landfill is operated under a RCRA Part B permit and a Compliance Order On Consent. The mixed waste landfill is in full compliance. There are currently seven groundwater monitoring wells at the mixed waste landfill. Three additional groundwater monitoring wells will be installed as directed by the New Mexico Environment Department.*

14.N FACILITY ACCIDENTS

The following comments related to accidents were received:

- Concern about the possibility and effects of facility accidents including subsequent social impacts that could result from an accident.
- A commentor attached an email exchange between the commentor and a citizen concerned about the effects of a reported facility accident in an article by Frank Munger (also attached).
- The possibility of a facility accident poses both environmental risk and health risk.
- Bomb and plant accidents have killed 9.7 million people.
- Concern about the impacts and subsequent uselessness of the land if a catastrophic event occurred at LANL.
- There is no plan for safe evacuation in the event of an accident or terrorist attack.

Response: *Accidents are addressed in the Health and Safety Sections for each site. All new facilities and building expansions would be designed to withstand the maximum expected earthquake-generated ground acceleration in accordance with DOE Order 420.1B, Facility Safety, and accompanying safety guidelines. Earthquakes are addressed in this SPEIS in the Geology and Soils Sections for each potentially affected site. Site geologic conditions and*

reasonably expected natural disasters would not likely have substantial adverse affect on the facilities that could result in significant impact health or the environment. NNSA does not have information on commentor's assertion that "bomb and plant accidents have killed 9.7 million people."

14.N.1 Commentors stated that there is no plan for safe evacuation of Los Alamos – or anywhere else- in the event of a catastrophic accident or terrorist attack.

Response: *LANL and Los Alamos County have developed emergency management programs to govern evacuations. Los Alamos County is responsible for evacuation of county land (including county communities), and, with LANL's input, has prepared the Los Alamos County All Hazards Plan which is required by the State of New Mexico. That plan has been reviewed and approved by the State of New Mexico. The laboratory has implemented two notification systems to alert LANL and county occupants of emergencies:*

- *Community Alert Network. This system includes all of Los Alamos County and is capable of notifying all occupants by telephone, cable TV sub-caption, and radio stations in the event of an emergency.*
- *Site-Wide Area Notification. This system has special two-way radios located in LANL facilities and is capable of site specific or LANL-wide notification in the event of an emergency.*

Other sites have also established appropriate emergency management programs.

14.N.2 A commentor noted that the building and rebuilding of all of these nuclear weapons could be damaging if located 45 minutes from Las Vegas, NV, the entertainment capital of the world.

Response: *Section 5.3.12.2.1, of Volume II of the SPEIS, analyzes the impacts to the offsite population residing within 50 miles of the NTS location from a set of postulated accidents that bound the impacts of all reasonably foreseeable accidents that could occur from the Consolidated Plutonium Center at NTS. The accident with the highest potential consequences to the offsite population (see Table 5.3.12-1, Volume II) is a beyond evaluation basis earthquake and fire. Approximately 0.47 latent cancer fatalities could result from such an accident in the absence of mitigation measures. When probabilities are taken into account (see Table 5.3.12-2, Volume II) the accident with the highest risk to the maximally exposed individual is an explosion in a feed casting furnace. For this postulated accident, the latent cancer fatality risk to the maximally exposed individual would be approximately 1 in 150,000.*

14.N.3 A commentor stated that the Los Alamos County Fire Chief and Police Chief need to review the classified appendix.

Response: *In order to review the classified appendix, an individual must have a need to know and possess the authorized clearance level for the information to be reviewed. NNSA would welcome contact from the Los Alamos County Fire Chief and Police Chief regarding this issue.*

14.N.4

Citing Appendix B of the Draft SPEIS, one commentor stated that the role of the LANL Emergency Response Organization cannot conflict with either the established HAZMAT response protocols or violate state law or local jurisdictional authority.

Response: *The cited Section of Appendix B is a general description of DOE emergency response planning. DOE Order 1551.C, Comprehensive emergency Management System, provides the basis for all DOE Emergency Response Plans. As noted in Appendix B, that order “requires coordination with tribal, state, and local agencies and organizations responsible for offsite emergency response.” The order also states, “Each DOE/NNSA site/facility must have an Operational Emergency Base Program that implements the requirements of applicable Federal, State, and local laws/regulations/ordinances for fundamental worker safety programs (e.g., fire, safety, and security).”*

LANL’s Emergency Response and Management Program is operated out of an Emergency Operations Center (EOC). The EOC is the command center for responding agencies in an emergency and has space and resources to house up to 120 personnel, including representatives from other Federal agencies, neighboring Pueblos, National Guard, New Mexico State Police, Los Alamos County Police, firefighters, Emergency Managers, the Red Cross, and others. LANL emergency management staff and Los Alamos County police, fire, emergency medical and 911 dispatch personnel operate out of the LANL EOC. A computer-aided dispatch system provides a centralized dispatch capability for the Los Alamos Police and Fire Departments. First responders from different agencies share real-time information from the same EOC, resulting in a more coordinated emergency response.

LANL uses several mechanisms to coordinate site emergency response plans and training opportunities with local offsite response agencies. Routine coordination between LANL staff and offsite agencies is primarily handled through the Los Alamos County Local Emergency Planning Committee (LEPC). The LEPC includes representatives from LANL, various Los Alamos County and nearby county emergency response agencies, the National Forest Service, the National Park Service, and other interested parties.

DOE emergency responders follow the National Incident Management System protocol. All DOE sites conduct at least one emergency response exercise annually and coordinate all exercises with at least; local police departments, fire departments, local hospitals and the FBI.

14.N.5 A commentor expressed concern that accidents will happen.

Response: *The commentor's concern is noted. The SPEIS assesses the potential impacts associated with accidents in Chapter 5 of Volume II.*

14.N.6 A commentor stated that NNSA is required to examine the environmental consequences of the maximum accident event at the TA-55 facility and the planned CMRR facility for pit production at LANL under its maximum pit production scenario.

Response: *Section 5.1.12 of Volume II of the SPEIS, presents the information requested by the commentor.*

14.N.7 A commentor noted that the impact of an accident (or other release scenarios including earthquake or terrorism attack) with tritium at LLNL were not considered in the Draft SPEIS and must be.

Response: *The potential impacts of intentional destructive acts (terrorism) are presented in a classified appendix. With respect to potential accidents associated with an earthquake, those accidents are presented in the LLNL SWEIS (LLNL 2008). Those impacts are relevant and expected to be greater than any impacts associated with the proposed actions. For actions at LLNL that would reduce radiological materials within the site, the SPEIS presents an analysis of the reduced impacts that could result (see Section 5.12.1 of Volume II of the SPEIS).*

14.N.8 The following comments were received regarding accidents at LLNL: The Draft SPEIS proposes to keep highly enriched uranium and plutonium at LLNL at least for the next five years, yet fails to consider the Lab's environmental record of accidents, spills, leaks etc. with these materials.

- There have been numerous fires and other accidents involving uranium at LLNL.
- Problems with the LLNL plutonium facility are relevant and must be examined in the SPEIS.
- Safety vulnerabilities such as the ventilation system and electrical system must be considered carefully.
- The SPEIS does not discuss the environmental impacts of plutonium in Livermore at all, and must.
- Is DOE is still using the old 5 percent leak path factor.
- The SPEIS should describe how the significance of LLNL's reliance on air monitors/emergency generators and negative airflow.
- The SPEIS should include information about the October 2003 plutonium accident that resulted in a dozen lab employees potentially being exposed to airborne plutonium because glovebox seals, an

emergency generator, an alarm system and negative airflow system all failed simultaneously.

- A case study should be included in the SWEIS describing how all of these things could have failed at once and describing how these types of failures would not happen again.

Response: Pursuant to DOE Orders, normal plutonium operations at LLNL (and at all other plutonium operations in the nuclear weapons complex) rely on safety class systems and administrative controls to ensure that worker exposures are as low as reasonably achievable and that the facility operates within its authorized safety basis. It is unfortunate reality that accidents sometimes happen. NNSA analyzes the accidents that do occur to determine the causes and to apply lessons learned to future activities to help in the prevention of future accidents. There can be no certainty that accidents will not occur in the future. That is why the SPEIS provides analysis of the potential consequences of accidental releases and exposures.

With respect to leak path factors, they are considered in order to determine the source term (the amount of material released) from a facility during an accident. The leak path factor is essentially an estimate of how easily material would escape containment and reach the environment. A leak path factor of 1 (or 100 percent) means that all of the material would escape to the environment for that particular accident. A leak path factor of 0.05 (or 5 percent) means that 5 percent of the material would escape to the environment for that particular accident. Leak path factors are determined by many things, including facility design, system design, type of material, pressure and temperature, and the type of accident. Leak path factors are generally determined through detailed facility-specific safety analysis reports. At LLNL, the leak path factor associated with the plutonium operations is 0.05 (or 5 percent) (see Appendix D of DOE 2005a).

14.N.9 NOT USED

14.N.10 Commentors stated that the SPEIS should address:

- Impacts to quality of life factors that make the community vulnerable to accidents;
- Impacts to services such as law enforcement resulting from the lack of training or emergency preparedness; and,
- Impacts to self-governance and tribal administration of the tribe that could result from a failure of institutional capacity to deal with the demands of an accident or disaster related

Another commentor stated that an appropriate environmental justice analysis would include a complete evaluation of indigenous peoples' ability to respond to

an emergency and/or any types of health effects that may be associated with these tests. A commentor stated that both nuclear weapons and complex transformation are hazardous to the environment.

Response: *The SPEIS addresses the probability and reasonably foreseeable environmental impacts from potential accidents. The SPEIS does not address issues such as quality of life, lack of training, or self-governance. These issues are beyond the scope of the analysis. Potential impacts from accidents are presented in Chapter 5 of the SPEIS. With respect to emergency response, DOE Order 1551.C provides the basis for all DOE Emergency Response Plans. As noted in Appendix B, that Order requires coordination with tribal, state, and local agencies and organizations responsible for offsite emergency response. More information on the emergency response, may be found in comment-response 14.N.4.*

14.O

CUMULATIVE IMPACTS

The following comments were received regarding cumulative impacts:

- Nuclear weapons are hazardous to the environment and public health.
- Cumulative impacts from operations throughout the state of New Mexico must be considered in the SPEIS.
- NNSA should provide a summary view chart with the potential environmental impacts including information pertaining to radionuclides in the water supply. Profound environmental contamination at the proposed sites is responsible for radical differences in the baseline data used to assess the environmental impacts.

Response: *Radioactive materials and wastes, if not handled correctly, are hazardous. For this reason, DOE has developed extensive and strictly enforced processes for dealing with radioactive materials and wastes. The most effective means to avoid harm from these materials and wastes is to avoid contact. All DOE radiological and waste management facilities are located in areas with controlled access and operated in strict compliance with all applicable laws, regulations, and orders.*

NNSA has added Section 6.4 of Volume II of the Final SPEIS to provide more information on the potential cumulative impacts from activities at all New Mexico sites. The text in the final SPEIS has been revised to better describe the cumulative impacts in those areas of the state where the potential environmental impacts from a site might overlap with the impacts from another site or sites. The analysis considers LANL, SNL/NM, White Sands Missile Range, WIPP, the National Enrichment Facility in Lea County, and GNEP's potential programmatic impacts.

Tables S.3.16-1 through S.3.16-8 and 3.16-1 through 3.16-8, (Volume I of the SPEIS), provide a summary of impacts for all of the alternatives addressed in the Complex Transformation SPEIS. See also comment-response 14.O.1, below, for additional discussion of cumulative impacts in New Mexico and comment-response 14.E for additional information on impacts to water resources.

14.O.1 The following comments related to cumulative impacts were received:

- The SPEIS needs to look at cumulative impacts (economic and health) from activities at all New Mexico sites including White Sands, uranium enrichment in Lea County, WIPP and the "endless stream of nuclear facilities."
- The cumulative impact of concentrating weapon building and testing at three sites within a few hundred miles of each other in the single state of New Mexico needs to be considered.
- The 50-mile radius analysis of impacts of LANL and SNL/NM overlap. The cumulative impacts to the public of these two facilities must be analyzed, along with the WIPP transportation route, planned increases in uranium mining and processing in the area, and operation of additional commercial nuclear reactors under the Global Nuclear Energy Partnership (GNEP).
- The Draft SPEIS gave no consideration to the cumulative risks of additional body burden from all future weapons making activities in New Mexico coupled with existing risks from past operations.

Response: *NNSA has added Section 6.4 of Volume II of the final SPEIS to provide more information on the potential cumulative impacts from activities at all New Mexico sites. The text in the SPEIS has been revised to better describe the cumulative impacts in those areas of the state where the potential environmental impacts from a site might overlap with the impacts from another site or sites. This analysis considers LANL, SNL/NM, White Sands, WIPP, the uranium enrichment facility in Lea County, and GNEP's potential programmatic impacts.*

The 50-mile radius was not intended as a limit for cumulative impacts analysis. Each resource area may have a different region of influence; for instance, cumulative impacts to cultural resources would be largely confined to a single site. However, surface water resources could potentially have cumulative impacts far downstream on the Rio Grande. Impacts from radiological air emissions are typically modeled out to 50 miles (80 kilometers). If the modeling results indicate that air quality impacts could be significant beyond 50 miles (80 kilometers), additional analysis is performed. Operational impacts are greatest within a few miles of the source of the air emissions. The radiological doses from airborne emissions decrease as a function of distance from the source. For

example, at LANL, with increasing distance from LANSCE, the largest radiological air emitter at the site, the dose drops dramatically from approximately 7.5 mrem per year at 0.5 miles (0.8 kilometers) to 0.035 mrem per year at 50 miles in the direction of the highest potential dose (north-northeast of LANSCE). The large drop in radiological dose with distance is due primarily to dispersion of the emitted contaminants, which reduced their concentrations. See the LANL Final SWEIS (LANL 2008) for additional discussion and a graphic depiction that was added to Appendix C. Extending the impacts analysis of air emissions from the most severe potential accident at LANL out to 100 miles (161 kilometers) would change calculated results for population doses by approximately 3 percent.

See comment-response 14.D.6 for a discussion of the dose information for LANL. The SNL/NM doses to the MEI and population are less than 1 percent of the LANL doses. As such, even if the results of the 50-mile radius air emissions modeling for SNL/NM were superimposed on the 50-mile radius of impacts for LANL, the combined impacts would be very small. Comment-responses 14.K and 14.I provide further discussion of health effects and socioeconomic impacts respectively. See also comment-response 14.O, above, for additional discussion of cumulative impacts in New Mexico.

14.O.2

A commentor stated that NEPA Categorical Exclusions must be included in the cumulative impacts

Response: NNSA considers hundreds of proposals each year to determine whether they are covered by one of the categorical exclusions listed in Appendices A and B of DOE's NEPA regulations, 10 CFR Part 1021. Most of these proposals involve routine activities and may include activities related to decontamination and decommissioning. In this Complex Transformation SPEIS, any action undertaken pursuant to application of a categorical exclusion is part of ongoing operations and included in the No Action Alternative.

DOE's categorical exclusions were established through a rulemaking process with public review and comment. Through this process, DOE determined that the class of action embodied in each categorical exclusion does not "individually or cumulatively have a significant effect on the human environment." (10 CFR §1021.410(a)) Any proposal must pass three tests before DOE determines that a categorical exclusion can be applied: (1) the proposal fits within an existing categorical exclusion, (2) there are no "extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal," and (3) the proposal is not connected to other actions with potentially significant effects, related to other actions with cumulatively significant impacts, and is not part of an action for which an EIS is being prepared (unless it qualifies as an interim action). (10 CFR §1021.410(b)).

Guidance from the Council on Environmental Quality discourages Federal

agencies from adopting "procedures that would require the preparation of additional paperwork to document that an activity has been categorically excluded." (CEQ, Guidance Regarding NEPA Regulations, 48 FR 34263, 1983) Accordingly, DOE does not require documentation of the application of categorical exclusions. DOE has issued guidance, however, recommending that "a simple record of a categorical exclusion determination be kept for all but the most routine proposed actions." (DOE, Guidance on National Environmental Policy Act (NEPA) Categorical Exclusion Determinations, 1998) Such records are available through individual site offices.

14.O.3 The following comments were received related to cumulative water impacts:

- Cumulative water impacts for all of the national laboratories are not analyzed. Water usage must be analyzed individually and cumulatively and for each of the various alternatives, including the “No Production, Only Reduction” alternative that they believe must be added to the SPEIS.
- Loss of groundwater resources and the contamination of those resources due to potentially increased contamination resulting from complex transformation must be analyzed.
- Volumes of water that would be contaminated with radiation and hazardous waste from prior and future activities must be analyzed for human health and the environment.

Response: *NNSA acknowledges that cumulative impacts may occur at all of its sites. Sites where potential impacts are minor are not discussed. NNSA focused this programmatic analysis on sites where the cumulative impacts could be significantly affected by the programmatic alternatives analyzed in the Complex Transformation SPEIS. The analysis complies with CEQ NEPA regulations, and the CEQ handbook, “Considering Cumulative Effects Under the National Environmental Policy Act.” No further analysis is warranted.*

14.O.4 A commentor stated that the cumulative impacts of future activities at Site 300 must be analyzed in the Draft Complex Transformation SPEIS. The commentor noted that DOE recently filed an application for an air permit with the San Joaquin Valley Air Pollution Control District for an eight fold increase over current levels (up to 8000 pounds of high explosives annually, including 20 mg (200 curies) of tritium and up to 5,000 pounds of uranium-238). Since LLNL officials have publicly stated that experiments for other federal agencies will continue at Site 300 in any event, such actions are clearly foreseeable. The commentor states that the environmental impacts of these activities, whether conducted by the Departments of Defense or Homeland Security, should be analyzed in the Draft Complex Transformation SPEIS.

Response: *NNSA has added additional discussion of reasonably foreseeable operations at LLNL Site 300 and also with respect to the air permit requests referred to by the commentors. This additional analysis may be found in Section 6.5 of Volume II of the final SPEIS.*

14.O.5

A commentor stated that the Draft SPEIS did not adequately assess cumulative impacts at NTS:

- “The Draft SPEIS does an inadequate job of assessing cumulative impacts from other DOE/NNSA activities at NTS. Major low-level radioactive waste (LLW) and mixed waste (MLLW) operations at Areas 5 and 3 are expected to continue while the proposed Complex Transformation activities are in operation. Cumulative impacts associated with these NTS activities should have been comprehensively addressed in the Draft SPEIS.
- Currently, heavy volumes of LLW and MLLW are being shipped to the NTS from numerous generators throughout the Nuclear Weapons Complex. Planned shipments of large volumes of Spent Nuclear Fuel and High-Level Waste, along with plutonium and SNM associated with proposed Complex Transformation activities will cause cumulative impacts on state and national highways. The Draft SPEIS does not comprehensively assess such cumulative impacts.
- For more than 40 years, NTS and at least two other locations in Nevada outside the NTS were used for above and below ground nuclear weapons tests, resulting in a legacy of surface and subsurface contamination. Groundwater contamination just from existing radioactive materials left over from weapons tests is massive, has the potential to migrate off-site, and would persist over an extremely long time period (i.e., hundreds, even thousands, of years). Health effects from the weapons testing era are still occurring. Existing groundwater contamination caused by nuclear testing beneath the NTS covers some 300 square miles. The Draft SPEIS should have thoroughly evaluated the cumulative impacts associated with any proposed Complex Transformation SNM facilities at NTS
- If the Yucca Mountain project goes forward, at least 70,000 metric tons of highly radioactive waste (a figure that could reach 120,000 MTU or more under credible alternative scenarios) would be transported to Nevada from around the country, resulting in tens of thousands of shipments over a period spanning four decades. As such, Yucca Mountain will have significant, pervasive, and long-lasting impacts on Nevada and on communities throughout Nevada -impacts that will unavoidably interact with and exacerbate impacts from any proposed Complex Transformation facilities. Such impacts include potential stigmatizing effects of the proposed alternatives as well as transportation

- accidents or incidents associated with Complex Transformation operations.
- The Draft SPEIS should also have evaluated cumulative impacts from existing and future operations at the Nevada Test and Training Range.

Response: *The Complex Transformation SPEIS is a programmatic level analysis. NNSA would conduct appropriate site-specific analyses of cumulative impacts as part of the NEPA process associated with a decision to site at the NTS facilities or activities resulting from decisions on complex transformation. The cumulative impacts assessment for the programmatic consideration of complex transformation is in Section 6.3.2 of Volume II of this SPEIS. Cumulative transportation-related impacts for Complex Transformation and the proposed Yucca Mountain Repository are addressed in Section 6.3.2 of Volume II of this SPEIS.*

Groundwater impacts associated with complex transformation are addressed in Section 5.3.5 of Volume II of this SPEIS, and are further discussed in comment-response 14.E. The only groundwater impact at NTS related to transformation would be use of water for construction and operations. No complex transformation facility or activity would reasonably be expected to cause any contamination to groundwater at the NTS.

Based on long-term studies and extensive monitoring of the groundwater at NTS and in the surrounding region, the only nuclear test-related radionuclide that has the potential to migrate from the immediate area of an underground test is tritium. As an isotope of hydrogen, tritium binds readily in water and is readily transported in the groundwater. To date, offsite migration of tritium, or any other radionuclide, has not been detected. With a radioactive half-life of about 12.5 years, the amount of tritium in the groundwater beneath the NTS is already less than one-half of the original source term for that radionuclide. It is estimated that within 65 years the concentration of tritium in the groundwater beneath the NTS will be lower than the U.S. Environmental Protection Agency drinking water standard of 20,000 picocuries per liter.

The cumulative impact assessment in Section 6.3.2, of Volume II, of this SPEIS addresses Yucca Mountain. Cumulative impacts of transportation for the maximum Complex Transformation “related activity and a Yucca Mountain Repository are addressed in that section.”

14.O.6

A commentor stated that Complex Transformation relies on the implementation of the Global Nuclear Partnership (GNEP).

Response: *The Complex Transformation and the Global Nuclear Energy Partnership EISs are separate actions and are not connected. Complex transformation does not rely, in any way, on decisions related to GNEP.*

15.0 GENERAL SUPPORT COMMENTS

Commentors expressed general support for Complex Transformation. Several commentors expressed support for siting Complex Transformation facilities and activities at specific sites, such as Pantex, LANL, Y-12, and SRS. Commentors supported the plans to reduce the facilities footprint, workforce, and redundant capabilities within the nation's nuclear weapons complex.

Response: *NNSA notes these comments.*

15.A and 15.A.1 SUPPORT FOR COMPLEX TRANSFORMATION

Comments were received supporting differing elements of complex transformation for differing reasons. The following summarizes the comments received:

- Reduction in footprint and potential environmental impacts was the right thing to be doing at this time;
- Reduction in footprint would allow the clean-up of more facilities as more facilities are closed;
- Adoption of the Preferred Alternative would enhance the national laboratories' ability conduct research unrelated to the weapons program and some said that the weapons program received benefits from other science being conducted at the national laboratories;
- Adoption of the Preferred Alternative would allow the national laboratories to continue to recruit the best and brightest new scientists
- Adoption of the Preferred Alternative would allow this nation to continue to reduce the number of nuclear weapons in our stockpile and still be able to respond to changing conditions in the world;
- NNSA activities were a critical economic engine for their regions and without the jobs and other expenditures of the facilities there would be significant impacts on the economy of the region;
- Nuclear weapons had preserved the peace since the end of WWII and are still an essential element of our national defense;
- Many comments were received supporting consolidation of special nuclear materials for security reasons; and,
- Commentor expressed appreciation for the dismantlement work done by Pantex and looked forward to the day when there would be less than 500 nuclear weapons possessed by either Russia or the United States

Response: *NNSA notes these comments.*

16.0 GENERAL OPPOSITION COMMENTS

A number of commentors expressed general opposition to NNSA activities concerning the nuclear weapons program. Many commentors stated that this

nation does not need or want nuclear weapons. Several commentors expressed opposition to continuing NNSA activities at each site and expressed general opposition to ongoing modernization activities at all of the sites. Specific comments were received expressing opposition to continuing the CMRR and UPF projects. Commentors also expressed general opposition to Complex Transformation and nuclear weapons.

Response: *NNSA notes these comments.*

16.A and 16.A.1

OPPOSITION TO COMPLEX TRANSFORMATION

Comments were received opposing differing elements of complex transformation for differing reasons. The following summarizes the comments received by general topic:

Complex Transformation Opposition – General

- Complex transformation is immoral
- World inhabitants and the environment would be safer if all members of the NNSA were tried before the World Court and incarcerated as war criminals for continuing to plan crimes against humanity
- The administration's plans to rebuild the U.S. nuclear weapons production capacity is dangerous and expensive, and could reignite an arms race, encourage proliferation, and reduce national security
- The money spent on nuclear weapons is wasted and would be better used for such things as healthcare, education, environmental cleanup, alternative forms of energy, or other social programs
- Restarting U.S. nuclear warhead production and possibly building new weapons as called for by the Energy Department's preferred plan, would risk the lives of the entire human family
- A commentor also stated that the SPEIS needs to consider the following issues:
 - The need for, and proliferation of, nuclear weapons
 - The need for a long term energy policy
 - The need for a nuclear test ban treaty and arms control agreements
 - The credibility and accountability of the DOE
 - The need for safe nuclear waste storage facilities
 - The need to resolve excavation and remediation of existing sites
 - The effect of future nuclear weapon production on cleanup efforts and contamination
 - The location of new high level waste repositories after the WIPP fills up
 - The past lies and failures of DOE to clean up the contamination at

DOE sites

- Whether the Complex should operate
- The unacceptable environmental effects, and the moral, ethical, bio-psychic conduct of participation in designing, building, testing and more nuclear weapons of mass destruction

Need for Nuclear Weapons

- The majority of Americans are against nuclear weapons
- Building and stockpiling nuclear weapons for years to come is of great concern both locally and globally, as are the economic commitments we will have to make for upcoming centuries if we allow Complex Transformation to move forward
- Many former policy makers in the United States, such as George Schultz, William Perry, Colin Powell, Henry Kissinger, and Sam Nunn, recommend that nuclear weapons be abolished
- The United States has too many nuclear weapons, that nuclear weapons are not needed, that modernization of the nuclear weapons complex is not needed, and that the United States should pursue peace
- Nuclear weapons are immoral and will lead to extinction of mankind and destruction of the world.

Opposition Specific to Pantex

- The neighbors of Pantex care about the issues of security, safety, environmental responsibility and integrity, and have lived with what Pantex has done.
- The Pantex neighbors had put up with enough and did not need additional facilities and missions at Pantex.

Response: *NNSA notes these comments. As stated in Chapter 2, of Volume II, of the SPEIS, NNSA maintains the safety, security, and reliability of the U.S. Nuclear weapons stockpile through the Stockpile Stewardship Program. Whether this nation has nuclear weapons or the number and type of weapons in this nation's stockpile are not determined by NNSA, but are determined by the President and the Congress. Our nation's nuclear stockpile has been decreasing over the past several years and is expected to continue to decrease (see also comment-response 1.C). The SPEIS analyzes alternatives to best manage the Stockpile Stewardship program in light of a decreasing stockpile size. NNSA also cares about security, safety, environmental responsibility, and integrity. The proliferation of nuclear weapons are discussed in comment-response 1.J, the Comprehensive Test Ban Treaty is discussed in comment-response 1.E, waste management is discussed in comment-response 14.M, and the cumulative impacts of transformation are discussed in comment-response 14.0.*

16.B NOT USED**16.C OPPOSITION TO SITING AT LLNL**

Commentors expressed opposition to siting Complex Transformation at LLNL.

Response: *NNSA notes these comments.*

16.D – 16.F NOT USED**16.G OPPOSITION TO SITING AT SNL**

Commentors expressed opposition to siting Complex Transformation at SNL.

Response: *NNSA notes these comments.*

16.H OPPOSITION TO SITING AT Y-12

Commentors expressed opposition to siting Complex Transformation at Y-12.

Response: *NNSA notes these comments.*

16.I – 16.Q NOT USED**16.R OPPOSITION TO MOVING FLIGHT TESTING FROM TTR**

Commentors expressed opposition to moving Flight Testing from TTR.

Response: *NNSA notes these comments. NNSA has not made a decision as to the future location of flight test operations. The Preferred Alternative is discussed in Section 3.17 of Volume II of the SPEIS. Once the Complex SPEIS has been completed, the environmental impacts of the various flight test operations alternatives will be evaluated along with other cost, technical and risk analyses prior to reaching a decision as to the future location of flight test operations. This decision, along with other decisions will be announced in a Record of Decision.*

17.0 NOT USED**18.0 STAFFING REDUCTIONS**

Some commentors expressed concern about the economic impacts of staffing reductions throughout the complex.

Response: *As stated in the SPEIS, Complex Transformation is expected to result in a reduction in the number of workers involved in the nuclear weapons*

complex over time. However, in general it is expected that this reduction would occur over a long period of time as missions and facilities are readjusted within the Complex. Most reductions would be able to be accommodated by attrition of the workforce through retirements and other voluntary means. NNSA seeks to avoid involuntary staff reductions (i.e., layoffs) if possible.

18.A SITE SPECIFIC STAFFING

Commentors believe that the NNSA has a set goal of 20 to 30 percent reduction in nuclear weapons work force over the course of ten years. Several commentors expressed concerns about staffing reductions at specific sites, for example:

- Commentors stated that the TTR community is very dependent on and involved with TTR and the current decision making process pertaining to relocation of flight testing operations and expressed concern about the loss of jobs at TTR. Commentors stated that the dependency of the community on TTR makes it more susceptible to the impacts from relocating the flight testing mission as opposed to a larger community with a more diversified economy.
- Commentors stated that the Nye County Board of County Commissioners prefers the alternatives that will add good paying jobs to Nye County.
- Commentor expressed concern about the jobs that would be lost/staff reductions from the potential relocation of NNSA flight testing operations from Tonopah.
- Commentors are concerned about possible staff reductions and associated impacts at all locations.
- Commentors stated that NNSA and its contractors have had a very significant impact on local economy (in all locations) that would be adversely affected by moving the work elsewhere.

Response: *As stated in the SPEIS, Complex Transformation is expected to result in a reduction in the number of workers involved in the nuclear weapons complex over time, including both federal and contractor employees. However, in general it is expected that this reduction would occur over a long period of time as missions and facilities are readjusted within the Complex. Most reductions would be able to be accommodated by attrition of the workforce through retirements and other voluntary means. NNSA seeks to avoid involuntary reductions among its federal and contractor workforce if possible. See also comment-response 6.C for related discussion.*

NNSA has not made decisions on complex transformation. Once the Complex Transformation SPEIS has been completed, the environmental impacts of the

alternatives will be evaluated by NNSA along with other cost, technical and risk analyses prior to its decisions. These decisions will be announced in a Record of Decision. See comment-response 14.I for more discussion of potential socioeconomic impacts.

18.B GENERAL COMMENTS ON PERSONNEL IMPACTS

A commentor stated that the loss of staff and capabilities must be stopped. Several comments focused on personnel impacts that would occur at TTR stating that if NNSA decides to move the Flight Test Operations from TTR employees would have no choice other than to move to find new employers.

Response: *As stated in the SPEIS, Complex Transformation is expected to result in a reduction in the number of workers involved in the nuclear weapons complex over time. However, in general it is expected that this reduction would occur over a long period of time as missions and facilities are readjusted within the Complex. Most reductions would be able to be accommodated by attrition of the workforce through retirements and other voluntary means. NNSA seeks to avoid involuntary reductions among its federal and contractor workforce if possible. See comment-response 6.C for related discussion.*

NNSA has not made a decision as to the future location of flight test operations. Once the Complex SPEIS has been completed, the environmental impacts of the various flight test operations alternatives will be evaluated by NNSA along with other cost, technical and risk analyses prior to its reaching a decision on the future location of flight test operations. This decision, along with other decisions will be announced in a Record of Decision. See comment-response 14.I for more discussion of potential socioeconomic impacts.

18.C ECONOMIC CONCERNS (PERSONNEL)

A number of commentors expressed concern about the economic impacts Complex Transformation would have, including: the loss of jobs due to downsizing at several sites. Several commentors expressed concern related to the economic implication from moving the Flight Test operations out of TTR. Commentors also expressed concern about potential downsizing at LLNL associated with some alternatives of Complex Transformation and noted the negative impact that would have on the local economy and the non-profit social service sector. A commentor stated that a mission change at LANL would not result in a loss of jobs and would be beneficial for the region. Another commentor stated that the region needs LANL to stay funded and active so that economic development can take place within the city and valley in order to mitigate further budget cuts at LANL. Commentors stated that the jobs and welfare of the workers at Y-12 need to be included in any discussion on nuclear weapons.

Response: *As stated in the SPEIS, Complex Transformation is expected to result in a reduction in the number of workers involved in the nuclear weapons complex over time. However, in general it is expected that this reduction would occur over a long period of time as missions and facilities are readjusted within the Complex. Most reductions would be able to be accommodated by attrition of the workforce through retirements and other voluntary means. NNSA seeks to avoid involuntary reductions among its federal and contractor workforce if possible.*

NNSA has not yet made a decision as to the future location of flight test operations. Once the Complex SPEIS has been completed, the environmental impacts of the various flight test operations alternatives would be evaluated by NNSA along with other cost, technical and risk analyses prior to its reaching a decision as to the future location of flight test operations. This decision, along with other decisions will be announced in a Record of Decision. See comment-response 14.I for more discussion of potential socioeconomic impacts.

18.D ECONOMIC ISSUES ROI OR COST-BENEFIT COMMENTS

A commentor stated that more jobs could be created from cleanup operations than from nuclear weapons production operations.

Response: *NNSA notes this comment. Remediation is an ongoing DOE activity that will continue without regard to decisions that might be made on complex transformation.*

18.E ENVIRONMENTAL JUSTICE IN STAFF REDUCTIONS

A commentor was pleased that environmental justice was included in the presentation given at the public hearing.

Response: *NNSA notes this comment.*

19.0 FEDERAL OVERSIGHT

19.A AUTHORIZATION BASIS

A commentor stated that technical approach, project oversight, and management breakdowns are important factors resulting in a lack of funding for cleanup at LANL.

Response: *NNSA notes this comment. Ongoing environmental restoration activities at any of the sites are important but are not within the scope of this SPEIS.*

19.B – 19.D NOT USED

19.E SEISMIC PROTECTION OF PROPOSED FACILITIES

Commentors expressed general concern for the seismic protection of proposed facilities. Some commentors were specifically concerned with the CMRR at LANL and the siting of new facilities at LANL.

Response: *Information related to seismicity at NNSA facilities is in Volume II of the SPEIS in Sections 4.1.6 for LANL, 4.2.6 for LLNL, 4.3.6 for the NTS, 4.4.6 for TTR, 4.5.6 for Pantex, 4.6.6 for SNL/NM, 4.7.6 for White Sands Missile Range (an alternative location for Flight Testing), 4.8.6 for Savannah River Site, and 4.9.6 for Y-12. In addition, please see comment- responses 14.F.1, 14.F.2, and 14.F.4 for more information related to seismicity at existing NNSA facilities.*

All new facilities and building expansions would be designed to withstand the maximum expected earthquake-generated ground acceleration in accordance with DOE Order 420.1B, Facility Safety, and accompanying safety guidelines. Thus, site geologic conditions and reasonably expected natural disasters would not likely have substantial adverse affect on the facilities. The CMRR is required to meet these requirements.

20.0 OUT-OF-SCOPE

A number of comments were received that are outside the scope of Complex Transformation because the comments have no bearing on complex transformation or this SPEIS, including:

- Some commentors believed it was inappropriate for the LANL contractor to hire a public relations firm to help garner public support for LANL's missions.
- Another commentor stated the importance of the Russians and the United States following through with their commitment to dispose of plutonium from dismantled weapons and went on to suggest Russia send their plutonium, in the form of MOX fuel, to France for use in French power generating reactors.
- A commentor stated that it is the people who make decisions and that the DOE program managers should do what is morally right and be the ones to make the decision to not make weapons.
- According to some commentors, adverse psychological impacts related to stigma or "special effects" in fallout accidents cause some to live in a heightened state of anxiety from fear of nuclear hazard
- Commentors felt there was a stigma associated with accidents and an awareness of nuclear testing that causes psychological fear.

Response: *NNSA notes these comments and appreciates the time and effort that was spent making these comments as part of the NEPA process for Complex Transformation. However, because these comments are out of scope, no further response is provided.*